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ABSTRACT

This volume includes the tests, questionnaires, letters, manuals, findings, and analyses associated with the field evaluation of "ThinkAbout," a series of 60 15-minute programs organized in 13 clusters and designed to strengthen the reasoning skills of fifth and sixth graders, and to review and reinforce language arts, mathematics, and study skills. It includes the following materials: (1) pertinent case study agendas; (2) the ThinkAbout Tests; (3) a list of analyzed tests and test analysis forms; (4) the content and use of ThinkAbout, and examiner questionnaires; (5) survey questionnaires, cover letters, and follow-up letters; (6) the examiners' manual; (7) testing study orientation agenda; (8) graphs of test results by state; (9) tables showing the number of students exceeding criterion levels on the Comprehensive Tests of Basic Skills (CTBS) by state; (10) findings for individual CTBS test items; (11) teacher attitudes toward problem solving item data; and (12) analyses of factors influencing CTBS test performance other than the television broadcast. (LMM)

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Volume V

Appendices to

Technical Report

JAMES R. SANDERS and SUBHASH R. SONNAD
Evaluation Center
Western Michigan University

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RESEARCH ON THE INTRODUCTION, USE, AND IMPACT OF THE THINKABOUT INSTRUCTIONAL TELEVISION SERIES

Volume V

APPENDICES TO TECHNICAL REPORT

James R. Sanders and Subhash R. Sonnad

Evaluation Center

Western Michigan University

January 1982

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LR011397

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TABLE OF CONTENTS

Appendices

A. Pertinent Case Study Agendas
B. The ThinkAbout Tests
C. List of Analyzed Tests and Test Analysis Forms
D. The Content, Use of ThinkAbout, and Examiner Questionnaires
E. Survey Questionnaires, Cover Letters, and Follow-up Letters
F. Examiners' Manual
G. Testing Study Orientation Agenda
H. Graphs of Testing Study Findings by State
I. Tables of Students Exceeding Criterion Levels on CTBS by State
J. CTBS Item Findings
K. Attitudes toward Problem Solving Item Data
L. Secondary Testing Study Analyses

APPENDIX A

PERTINENT CASE STUDY AGENDAS

AGENDA

CASE STUDY TEAM ORIENTATION MEETING

THINKABOUT RESEARCH PROJECT

Evaluation Center
Western Michigan University
September 13-14, 1979

Thursday, September 13

9:00 am	Welcome and introductions
9:15 am	Review of the ThinkAbout series and of the research project
10:15 am	Break
10:30 am	Roles of case study team members, scope of the case studies, issues to be addressed, and expectations for reports
11:45 am	Lunch
1:15 pm	Continued discussion of roles, scope, issues, and expectations
3:15 pm	Break
3:30 pm	Policies for the case studies a. confidentiality b. availability of data records c. agreements with districts d. budget e. other
4:30 pm	Methods of investigation a. data sources, gaining access b. methods of data collection c. preparation of data records d. confirmation e. triangulation f. data analysis
5:30 pm	Adjourn

Friday, September 14

9:00 am	Continued discussion on methods of investigation
10:15 am	Break
10:30 am	Scheduling for the year a. contacting districts b. moving across districts c. visits d. payments e. reports
11:45 am	Lunch
1:15 pm	Unfinished business
2:30 pm	Adjourn

TOPICAL AGENDA

THINKABOUT CASE STUDY TEAM MEETING

Portland, Oregon
Benson Hotel, December 17-18, 1979

Monday, December 17

9:00 am-12:00 noon	1. What are we learning about ThinkAbout? (Themes, hunches, and other messages from Marilyn, Sylvia, and Harry) 2. Identification of problems associated with studying ThinkAbout (by Marilyn, Sylvia, and Harry) 3. Identification of ideas for the remainder of the project--issues for the case studies and national surveys, what to look for, how to use our time (everybody)
12:00 noon-1:00 pm	Lunch
1:00-2:30 pm	Field trip to ThinkAbout classroom
2:30-5:00 pm	Discussion of problems and ideas; decisions about structuring the upcoming time on the project (everybody)

Tuesday, December 18

9:00 am-12:00 noon	Continued discussion of problems and ideas; decision making (everybody)
12:00 noon-1:15 pm	Lunch
1:15-3:30 pm	Continued discussion of problems and ideas; decision making (everybody) Wrap-up (by Sanders)

APPENDIX B

THE THINKABOUT TESTS

Name _____
First Last

Boy _____ Girl _____ Teacher _____

School _____ Date _____

Town _____ State _____

2										
1	2	3	4	5	6	7	8	9	10	11

B

THINKABOUT EXERCISES

Brian's Doormats

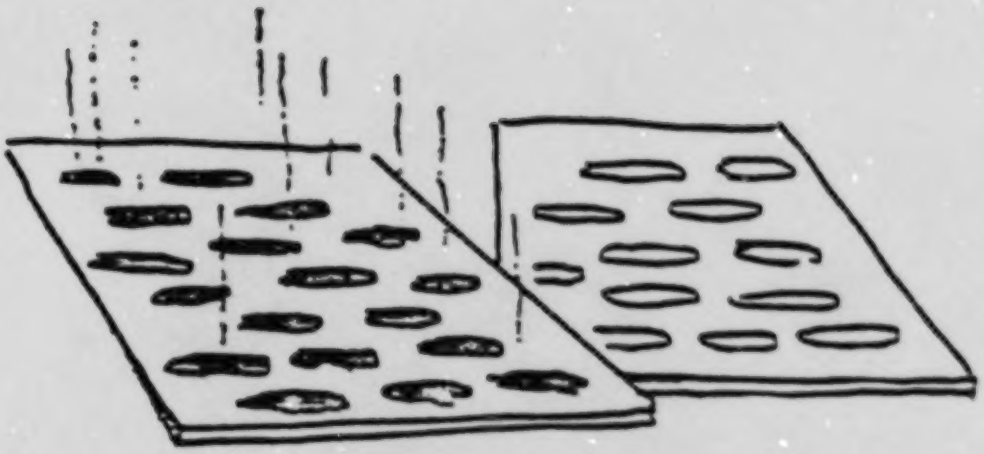
©Agency for Instructional Television
The development of this material has been supported by funds from The Corporation for Public Broadcasting.

Brian's Doormats

Brian's scout troop is baking cookies to sell at the next open house. Brian's mother said she would bake for him. However, she will not get home in time to help. It is now 5:00: two hours before the open house. Brian must make the cookies himself.

Brian turns up the kitchen radio full blast. He starts making cookie dough. Forty minutes later Brian finishes. He puts two cookie pans in the hot oven, one above the other. The cookies must bake for 20 minutes. He sets the bell timer. "That was not so bad," Brian thought. "I could make another batch in half the time." Brian smiles.

A short time later, Brian's smile freezes. Many of the cookies are fine. But others are burned. They look and taste like small doormats! Below is a picture of what he sees.



When you have read the story carefully, you may go on to the next page.

What questions might you want to ask about Brian's story and the problem? Write them below.

12

Does Brian have enough time to make more cookies before the scout meeting? What is your estimate? Circle **one** of the answers below:

13

He does not have enough time.	He probably does does not have enough time.	I can't tell.	He probably has enough time.	He certainly has enough time.

Below are several things Brian might think or do. Read each one. If you believe it is a good idea, draw a circle around either **Very Good** or **Good**. If the idea is poor, draw a circle around either **Poor** or **Very Poor**. Circle the **question mark** (?) if you cannot decide if it is a good or a poor idea.

Brian ought to give up and buy some cookies instead.	Very Poor	Poor	Good	Very Good	?	14
Brian might decide there is not enough time to make more cookies.	Very Poor	Poor	Good	Very Good	?	15
Brian might scrape off the burned part and use the cookies anyway.	Very Poor	Poor	Good	Very Good	?	16
As a first step, Brian might ask his older sister to help make another batch.	Very Poor	Poor	Good	Very Good	?	17
Brian's scout troop ought to think of better ways to earn money.	Very Poor	Poor	Good	Very Good	?	18
Brian might wonder why some of the cookies are not burned.	Very Poor	Poor	Good	Very Good	?	19
	1	2	3	4	5	

When you finish, you may go on.

Brian decides to figure out what caused some of the cookies to burn. You help Brian. Write down all the reasons you can to explain this. Start each idea at a new number below:

1.

2.

3.

4.

5.

20 21 22 23 24 25 26

When you finish your ideas, you may go on.

Here are some facts. They may help solve Brian's problem:

1. Putting a cookie pan too close to the top of the oven, where the heat comes from, can burn the cookies.

2. Brian put his mother's cooking thermometer in the oven. When the oven dial says 300 degrees, the correct temperature inside the oven is really 325 degrees.

3. Below are parts of the cookie recipe. On the left side are the directions. The right side tells how carefully Brian followed these directions.

Recipe Directions:	What Brian did:
Bake cookies in an oven between 300 and 325 degrees.	Brian set the oven for 300 degrees.
Bake for 20 minutes.	Brian baked for 18 minutes.
Add 1½ cups of sugar.	Brian added 1½ cups of sugar.
Add 2 cups of flour.	Brian added 2 cups of flour.

Study each idea below. If the facts tell you that an idea is probably a good answer, draw a circle around **Good**. If the idea is probably not a good answer, circle **Poor**. Circle the **question mark (?)** if you cannot tell about an idea because there are not enough facts yet:

Maybe the oven dial was wrong enough to cause the cookies to burn.	Poor	?	Good	34
Maybe Brian left the cookies in the oven too long.	Poor	?	Good	35
Maybe some of the cookies were too close to the top of the oven.	Poor	?	Good	36
Maybe Brian got so interested in the radio that he added too much sugar, by mistake.	Poor	?	Good	37
Maybe Brian put in too many eggs.	Poor	?	Good	38
	1	2	3	

When you finish, you may go on.

Below are two ideas to explain Brian's mystery: However, **neither** of these is very good!

1. Maybe the cookies burned because Brian left them in the oven too long.
   What fact tells you that this is probably not a good answer? Write it below:

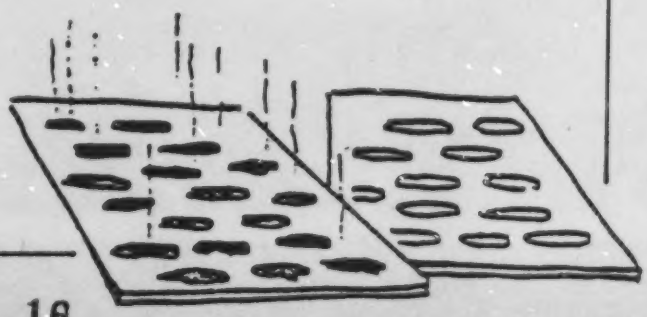
39

2. Maybe the cookies burned because the temperature in the oven was higher than what the oven dial said. What facts tell you that this is probably not a good answer? Write them below:

40

The idea that some of the cookies were too close to the top of the oven is probably the best answer. What fact in the story back on page one tells you that this is probably what happened? Write here:

41



When you finish, you may go on.

What do you feel about this problem? Please draw a circle around the answer that tells what you feel:

How much did you **enjoy** this problem?	Very Little	Little	Medium	Much	Very Much	42
How **hard** was this problem?	Very Easy	Easy	Medium	Hard	Very Hard	43
How **smart** are you at problems like these?	Very Poor	Poor	Fair	Good	Very Good	44
How much of your ability did you use?	Very Little	Little	Some	A lot	All my Ability	45
How hard did you **try**?	Very Little	Little	Medium	Hard	Very Hard	46
Compared to the other students how well did you do?	Very Poor	Poor	Fair	Well	Very Well	47
How **happy** are you with your ideas?	Very Unhappy	Unhappy	Fair	Happy	Very Happy	48
	1	2	3	4	5	

How important is each of the following things for doing well on this problem?

How hard a student tries.	Not Important	Medium Important	Very Important	49
How smart a student is.	Not Important	Medium Important	Very Important	50
How easy the problem is.	Not Important	Medium Important	Very Important	51
How lucky a student is.	Not Important	Medium Important	Very Important	52
	1	2	3	

STOP.

Name _____
First Last

Boy _____ Girl _____ Teacher _____

School _____ Date _____

Town _____ State _____

2										
1	2	3	4	5	6	7	8	9	10	11

C

THINKABOUT EXERCISES

Brian's Doormats

©Agency for Instructional Television
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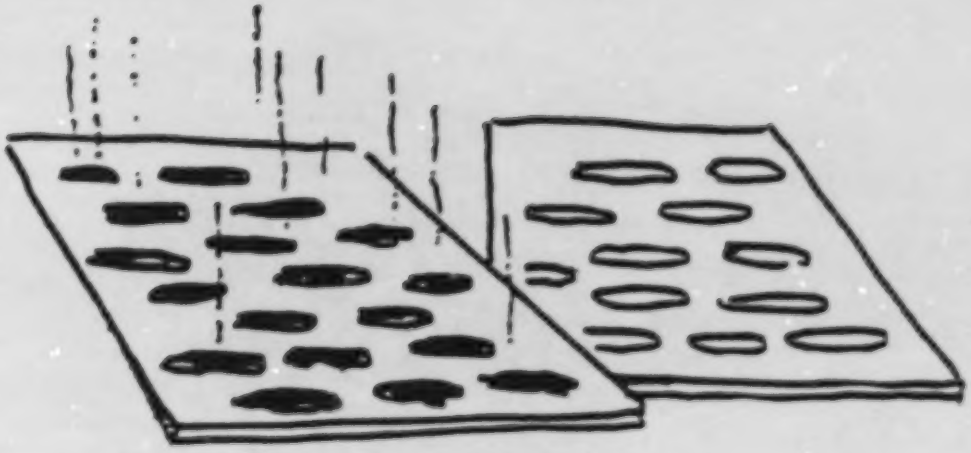
Brian's Doormats

Brian's scout troop is baking cookies to sell at the next open house. Brian's mother said she would bake for him. However, she will not get home in time to help. It is now 5:00: two hours before the open house. Brian must make the cookies himself.

Brian turns up the kitchen radio full blast. He starts making cookie dough. He puts two cookie pans in the hot oven, one above the other. The cookies must bake for 20 minutes. He sets the bell timer. "That was not so bad," Brian said with a smile.

A short time later, Brian goes to the oven. His smile freezes. Many of the cookies are fine. But others are burned. They look and taste like small doormats! "Wow," says Brian. "I have a problem." Below is a picture of what he sees.



When you have read the story carefully, you may go on to the next page.

What is Brian's problem? Write it below.

What are some of the different things Brian might do to solve his problem? Write them below. Start each idea at a new number.

1.

2.

3.

4.

When you finish, you may go on.

Brian decides to bake a new batch of cookies. But first, what things might Brian do to make sure this new batch does not burn? Write your ideas below. Start each idea at a new number.

1.

2.

3.

4.

5.

When you finish your ideas,
you may go on.

Brian has been thinking of ideas to explain why his first batch of cookies burned. But now he is stuck. So far he has thought only about not following the recipe, such as adding too much salt. Below are several ideas. Some are examples of Brian's habit of thinking only about not following the recipe. Other ideas show entirely **different** ways of thinking about the problem. Put an X mark in front of each idea that is a **different** approach:

_____ Maybe Brian left the cookies in the oven too long.	27
_____ Maybe the oven dial was broken and did not tell the right temperature.	28
_____ Maybe Brian was listening to his radio and forgot to add flour.	29
_____ Maybe some extra sugar spilled into the mixing bowl by mistake.	30
_____ Maybe Brian used a dirty mixing bowl.	31

Below are two ideas explaining why the cookies might have burned. How might Brian check each idea to see if it is a good answer?

1. Perhaps the oven is wrong. Maybe when Brian set the dial at 300 degrees it was really 400 degrees inside the oven. What might he do to check this idea? (Hint: there is a small cooking thermometer on the kitchen table.) Write your answer below: 32

2. Perhaps Brian left something out of the recipe. What could he do to check this idea? Write your ideas below: 33

When you finish, you may go on.

What do you feel about this problem? Please draw a circle around the answer that tells what you feel:

How much did you enjoy this problem?	Very Little	Little	Medium	Much	Very Much	42
How hard was this problem?	Very Easy	Easy	Medium	Hard	Very Hard	43
How smart are you at problems like these?	Very Poor	Poor	Fair	Good	Very Good	44
How much of your ability did you use?	Very Little	Little	Some	A lot	All my Ability	45
How hard did you try?	Very Little	Little	Medium	Hard	Very Hard	46
Compared to the other students how well did you do?	Very Poor	Poor	Fair	Well	Very Well	47
How happy are you with your ideas?	Very Unhappy	Unhappy	Fair	Happy	Very Happy	48
	1	2	3	4	5	

How important is each of the following things for doing well on this problem?

How hard a student tries.	Not Important	Medium Important	Very Important	49
How smart a student is.	Not Important	Medium Important	Very Important	50
How easy the problem is.	Not Important	Medium Important	Very Important	51
How lucky a student is.	Not Important	Medium Important	Very Important	52
	1	2	3	

STOP.

Name _____
First Last

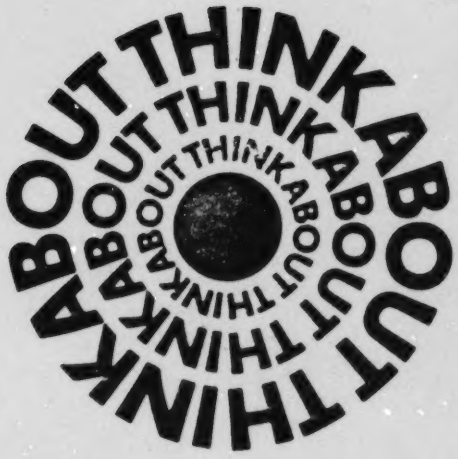
Boy _____ Girl _____ Teacher _____

School _____ Date _____

Town _____ State _____

3										
1	2	3	4	5	6	7	8	9	10	11

B



THINKABOUT EXERCISES

The Mystery of the Whales

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The development of this material has been supported by funds from The Corporation for Public Broadcasting.

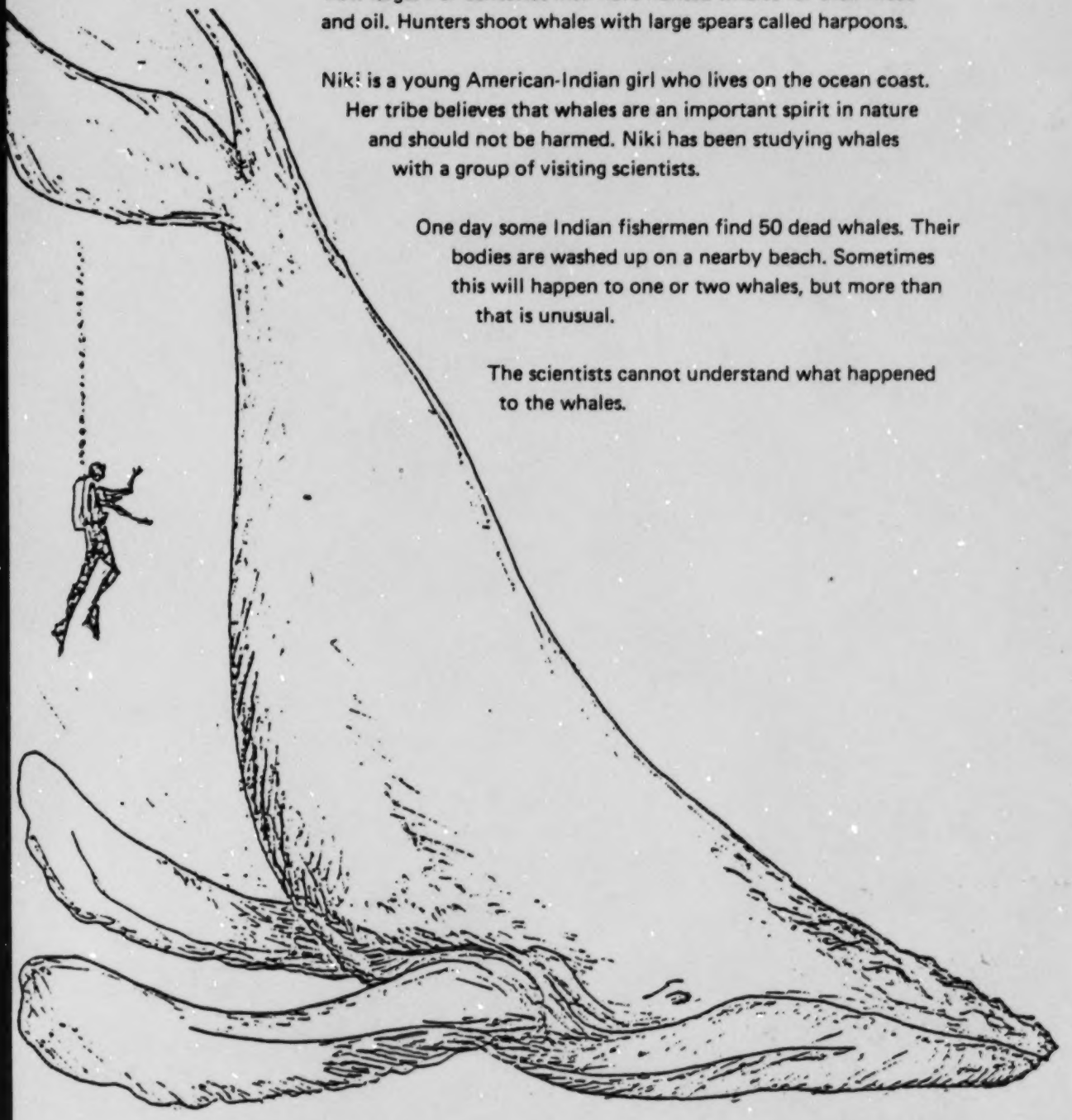
Mystery of the Whales

Whales are the largest animals on earth. The picture shows you just how large. For centuries men have hunted whales for their meat and oil. Hunters shoot whales with large spears called harpoons.

Niki is a young American-Indian girl who lives on the ocean coast. Her tribe believes that whales are an important spirit in nature and should not be harmed. Niki has been studying whales with a group of visiting scientists.

One day some Indian fishermen find 50 dead whales. Their bodies are washed up on a nearby beach. Sometimes this will happen to one or two whales, but more than that is unusual.

The scientists cannot understand what happened to the whales.



When you have read the story carefully, you may go on to the next page.

What questions might you want to ask about this mystery of the whales?
Write your questions below:

12

Below are several things Niki might think. Read each one. If you believe it is a good idea, draw a circle around either **Very Good** or **Good**. If the idea is poor, draw a circle around either **Poor** or **Very Poor**. Circle the **question mark** (?) if you cannot decide if it is a good or a poor idea.

As a first step, the dead bodies should be towed away.	Very Poor	Poor	Good	Very Good	?	15
The scientists might try to save the baby whales for a zoo.	Very Poor	Poor	Good	Very Good	?	16
Young people should not be asked to understand adult problems like this.	Very Poor	Poor	Good	Very Good	?	17
There is really nothing the scientists can do since the whales are already dead.	Very Poor	Poor	Good	Very Good	?	18
The scientists might ask the fishermen what they saw.	Very Poor	Poor	Good	Very Good	?	19
	1	2	3	4	5	

When you finish, you may go on.

The scientists decide to figure out why so many whales died. You help. Write down all the reasons you can to explain this. Start each idea at a new number below:

1.

2.

3.

4.

5.

☐ ☐ ☐ ☐ ☐ ☐ ☐

20 21 22 23 24 25 26

When you finish your ideas, you may go on.

Here are some facts. They may help solve the mystery of the whales.

1. The fishermen saw nothing unusual on the day the whales died. No large ships were seen along the coast.

2. Here is a weather report on the ocean for the day the whales died. SOME WIND. NO WAVES. CLOUDY. STORM LIKELY TOMORROW.

3. The scientists studied the leader of the whales. Here is their report: Male. Probably 100 years old. Weighs 36 tons. 45 feet long. Brain tumor. Old wound in tail.

4. The scientists also studied the other whales. Some weighed as much as 40 tons. There were no cuts or wounds on the whales.

Study each idea below. If the facts tell you that an idea is probably a good answer, draw a circle around **Good**. If the idea is probably not a good answer, circle **Poor**. Circle the **question mark** if you cannot tell about an idea because there are not enough facts yet.

Maybe hunters killed the whales.	Poor	?	Good	34
Maybe a storm at sea caused the whales to lose their way.	Poor	?	Good	35
Maybe the whale leader lost his sense of direction, and the other whales followed.	Poor	?	Good	36
Maybe the whales became confused by the echos from the engines of a large ship.	Poor	?	Good	37
Maybe all the whales were poisoned.	Poor	?	Good	38
	1	2	3	

When you finish, you may go on.

Below are two ideas to explain the mystery of the whales. However, neither of these ideas is very good!

39

1. Maybe a storm at sea caused the whales to lose their way. What facts tell you that this is probably not a good answer? Write them below:

2. Maybe hunters killed the whales. What facts tell you that this is probably not a good answer? Write them below:

40

The idea that the leader lost his way, and the other whales followed, is probably the best answer. What facts about the leader tell why he might have lost his sense of direction? Write them below:

41

What do you feel about this problem? Please draw a circle around the answer that tells what you feel:

How much did you enjoy this problem?	Very Little	Little	Medium	Much	Very Much	42
How hard was this problem?	Very Easy	Easy	Medium	Hard	Very Hard	43
How smart are you at problems like these?	Very Poor	Poor	Fair	Good	Very Good	44
How much of your ability did you use?	Very Little	Little	Some	A lot	All my Ability	45
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	1	2	3	4	5	

How important is each of the following things for doing well on this problem?

How hard a student tries.	Not Important	Medium Important	Very Important	49
How smart a student is.	Not Important	Medium Important	Very Important	50
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	1	2	3	

STOP.

Name _____
First Last

Boy _____ Girl _____ Teacher _____

School _____ Date _____

Town _____ State _____

3										
1	2	3	4	5	6	7	8	9	10	11

C

THINKABOUT EXERCISES

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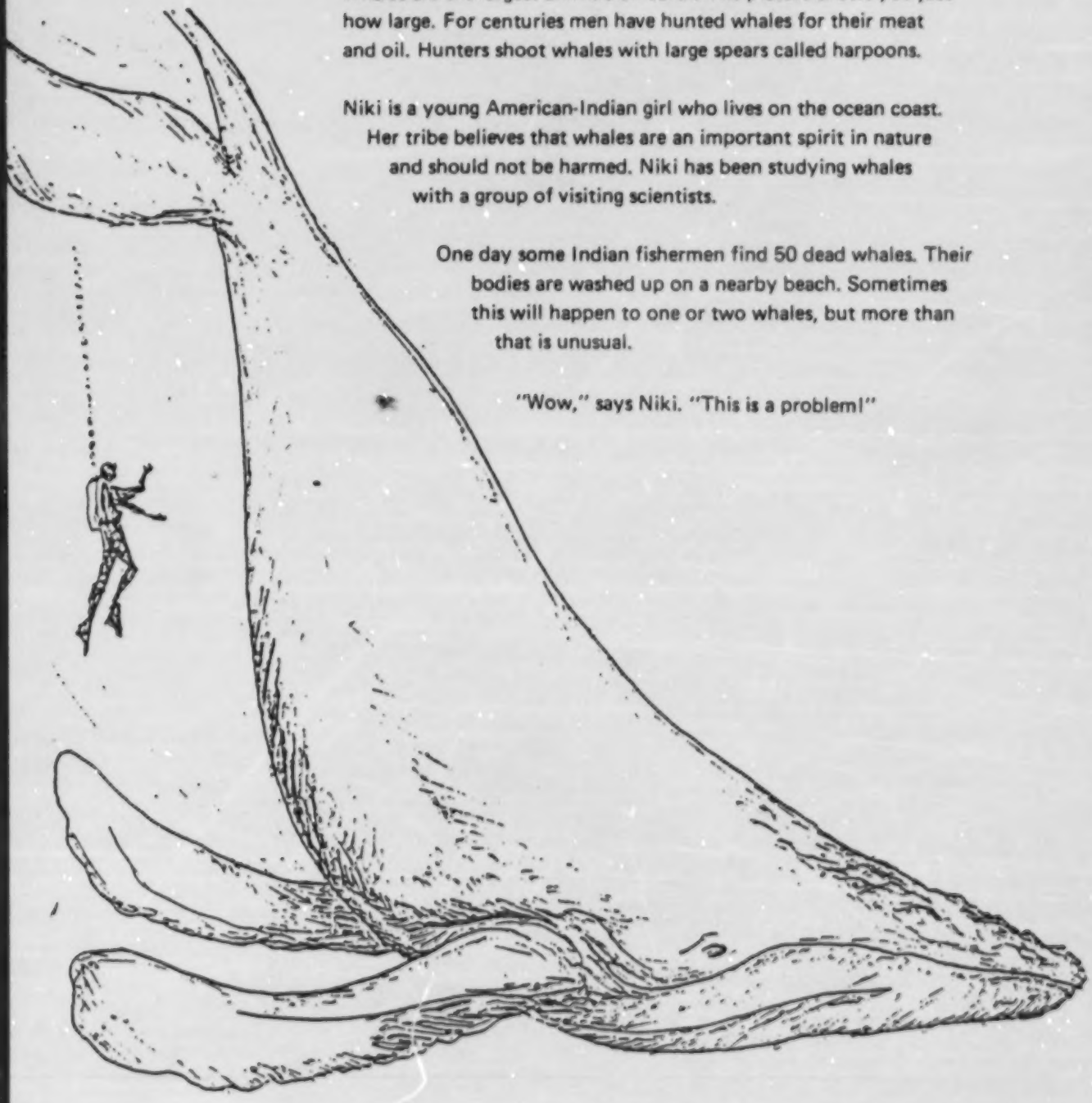
One day some Indian fishermen find 50 dead whales. Their bodies are washed up on a nearby beach. Sometimes this will happen to one or two whales, but more than that is unusual.

"Wow," says Niki. "This is a problem!"



When you have read the story carefully, you may go on to the next page.

What is the problem? Write it below.

What are some of the different things Niki and the scientists might do to solve this problem? Write them below. Start each idea at a new number.

1.

2.

3.

4.

When you finish, you may go on.

What different things might the scientists do now to prevent other whales from dying in the same way? Write your ideas below. Start each idea at a new number.

1.

2.

3.

4.

5.

When you finish your ideas, you may go on.

The scientists have been thinking of ideas to explain why the whales died. But now they are stuck. So far they have thought only about ways humans might have harmed them. Below are several ideas. Some are examples of the scientists' habit of thinking only about humans harming the whales. Other ideas show entirely **different** ways of thinking about the problem. Put an X mark in front of each idea that is a **different** approach:

_____ Maybe oil from a shipwreck got in the whales' lungs and killed them. 27

_____ Maybe the whales were killed by hunters. 28

_____ Maybe the whales swam too close to shore and were trapped when the tide went out. 29

_____ Maybe a storm caused the whales to lose their way. 30

_____ Maybe the whales were frightened by killer whales and they swam the wrong way. to escape. 31

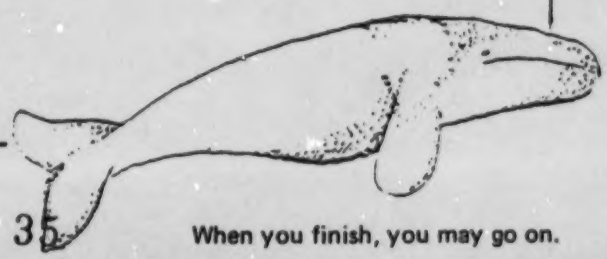
Below are two ideas explaining why the whales might have died. How might the scientists check each idea to see if it is a good answer to the mystery?

1. Maybe a storm far out at sea caused the whales to lose their way. What different things might the scientists do to check this idea? Write your answers below:

32

2. Maybe hunters killed the whales for their meat and oil. How might the scientists check this idea? Write your ideas below:

33



When you finish, you may go on.

What do you feel about this problem? Please draw a circle around the answer that tells what you feel:

How much did you enjoy this problem?	Very Little	Little	Medium	Much	Very Much	42
How hard was this problem?	Very Easy	Easy	Medium	Hard	Very Hard	43
How smart are you at problems like these?	Very Poor	Poor	Fair	Good	Very Good	44
How much of your ability did you use?	Very Little	Little	Some	A lot	All my Ability	45
How hard did you try?	Very Little	Little	Medium	Hard	Very Hard	46
Compared to the other students how well did you do?	Very Poor	Poor	Fair	Well	Very Well	47
How happy are you with your ideas?	Very Unhappy	Unhappy	Fair	Happy	Very Happy	48
	1	2	3	4	5	

How important is each of the following things for doing well on this problem?

How hard a student tries.	Not Important	Medium Important	Very Important	49
How smart a student is.	Not Important	Medium Important	Very Important	50
How easy the problem is.	Not Important	Medium Important	Very Important	51
How lucky a student is.	Not Important	Medium Important	Very Important	52
	1	2	3	

STOP.

Name _____
First Last

Boy _____ Girl _____ Teacher _____

School _____ Date _____

Town _____ State _____

1										
1	2	3	4	5	6	7	8	9	10	11

B

THINKABOUT EXERCISES

Maria's Vegetable Garden

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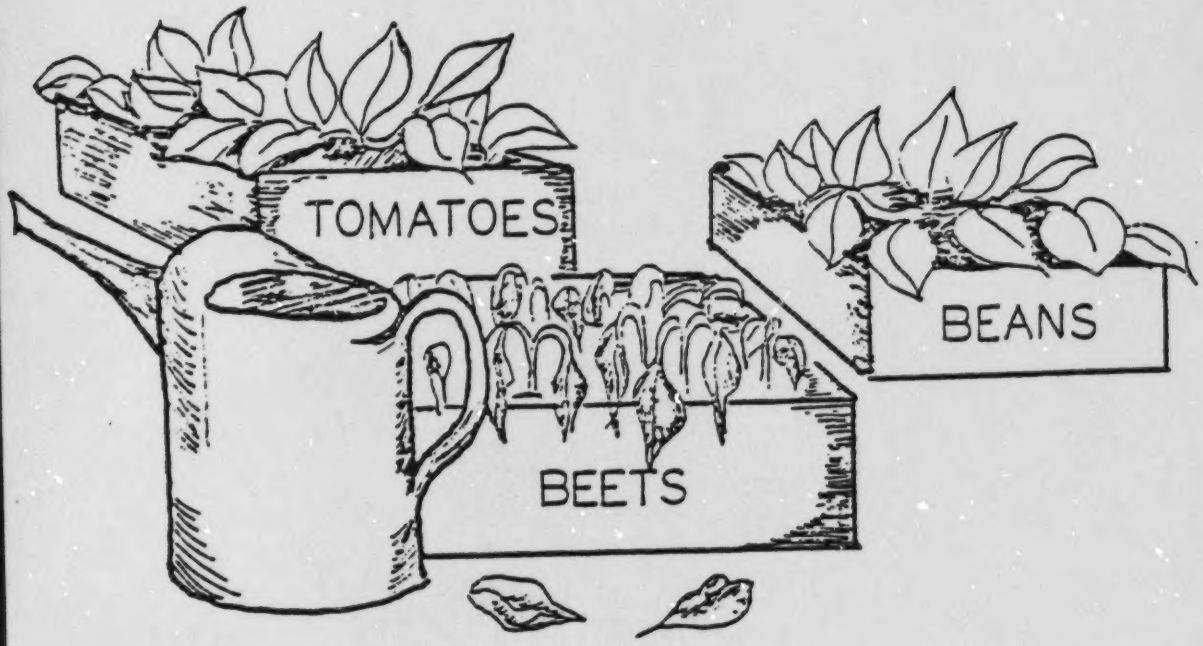
Maria's Vegetable Garden

Maria is 12 years old. She uses a wheel chair. Maria's father works hard but the family is always short on money. Maria decides to help by growing vegetables at home in wooden boxes. A garden will save money. Mrs. Ruiz, a neighbor, gives Maria a book on how to grow vegetables. She also helps Maria plant her garden. But from now on, Maria wants to do everything herself. The only help she needs is from her brother, Carlos. Carlos carries the vegetable boxes up to the roof on sunny days. The rest of the time the boxes are kept on the back porch. In the summer this room gets very hot. In the winter, it gets very cold.

One summer day, when the vegetables are still too small to eat, Maria looks at the plants. Some of the plants are fine. But other plants are limp, and their leaves are turning brown. Here is a picture of what she sees:



When you have read the story carefully, you may go on to the next page.

What questions might you want to ask about Maria's story and the problems?
Write them below:

12

Below are several things Maria might think or do. Read each one. If you believe it is a good idea, draw a circle around either **Very Good** or **Good**. If the idea is poor, draw a circle around either **Poor** or **Very Poor**. Circle the **question mark** (?) if you cannot decide if it is a good or a poor idea.

Maria might buy some more seed and start over again	Very Poor	Poor	Good	Very Good	?	14
Maria might decide the beets are dead.	Very Poor	Poor	Good	Very Good	?	15
Maria's family should eat the vegetables before they rot.	Very Poor	Poor	Good	Very Good	?	16
As a first step, Maria could ask Mrs. Ruiz to figure out what is happening.	Very Poor	Poor	Good	Very Good	?	17
Maria ought to look for a better way to help her family.	Very Poor	Poor	Good	Very Good	?	18
Maria might wonder why only some plants are turning brown.	Very Poor	Poor	Good	Very Good	?	19
	1	2	3	4	5	

When you finish, you may go on.

Maria decides to figure out what might be causing the beet leaves to turn brown. You help Maria. Write down all the reasons you can to explain this. Start each idea at a new number below:

1.

2.

3.

4.

5.

☐ ☐ ☐ ☐ ☐ ☐ ☐

20 21 22 23 24 25 26

When you finish your ideas, you may go on.

Here are some facts. They may help solve Maria's problem:

1. Some vegetables, such as lettuce and beets, grow best in cool weather. Other vegetables, such as tomatoes and beans, grow best in hot, summer weather.

2. Maria looked closely at the beets. The box was not broken or damaged.

3. Mrs. Ruiz tells Maria that there should be no more than 50 beet plants in the box. Maria made four rows of plants. Each row had from 10 to 12 plants in it.

4. The chart below tells about garden pests that attack different vegetables:

Tomatoes	Beans	Beets
Cutworms	Bean Beetles	Snails
Blister Beetles	White Flies	Generally pest-free

Study each idea below. If the facts tell you that an idea is probably a good answer, draw a circle around **Good**. If the idea is probably not a good answer, circle **Poor**. Circle the **question mark (?)** if you cannot tell about an idea because there are not enough facts yet.

Maybe the beets were hurt because the box was dropped.	Poor	?	Good	34
Maybe Maria planted too many beets in the box.	Poor	?	Good	35
Maybe the beets were planted during the wrong time of the year.	Poor	?	Good	36
Maybe the beets were attacked by cutworms.	Poor	?	Good	37
Maybe the soil in the box is not rich enough to grow beets.	Poor	?	Good	38
	1	2	3	

When you finish, you may go on.

Below are two ideas to explain Maria's mystery. However, neither of these ideas is very good!

39

1. Maybe the beets were hurt because the box was dropped. What fact tells you that this is probably not a good answer? Write it below:

2. Maybe Maria planted too many beets in the box. What facts tell you that this is probably not a good answer? Write them below:

40

The idea that the beets were planted during the wrong time of year is probably the best answer. What facts tell you that this idea is a good one? Write them below:

41

What do you feel about this problem? Please draw a circle around the answer that tells what you feel:

How much did you **enjoy** this problem?	Very Little	Little	Medium	Much	Very Much	42
How **hard** was this problem?	Very Easy	Easy	Medium	Hard	Very Hard	43
How **smart** are you at problems like these?	Very Poor	Poor	Fair	Good	Very Good	44
How much of your ability did you use?	Very Little	Little	Some	A lot	All my Ability	45
How hard did you **try**?	Very Little	Little	Medium	Hard	Very Hard	46
Compared to the other students how well did you do?	Very Poor	Poor	Fair	Well	Very Well	47
How **happy** are you with your ideas?	Very Unhappy	Unhappy	Fair	Happy	Very Happy	48
	1	2	3	4	5	

How important is each of the following things for doing well on this problem?

How hard a student tries.	Not Important	Medium Important	Very Important	49
How smart a student is.	Not Important	Medium Important	Very Important	50
How easy the problem is.	Not Important	Medium Important	Very Important	51
How lucky a student is.	Not Important	Medium Important	Very Important	52
	1	2	3	

STOP.

Name _____
First Last

Boy _____ Girl _____ Teacher _____

School _____ Date _____

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1										
1	2	3	4	5	6	7	8	9	10	11

C

THINKABOUT EXERCISES

Maria's Vegetable Garden

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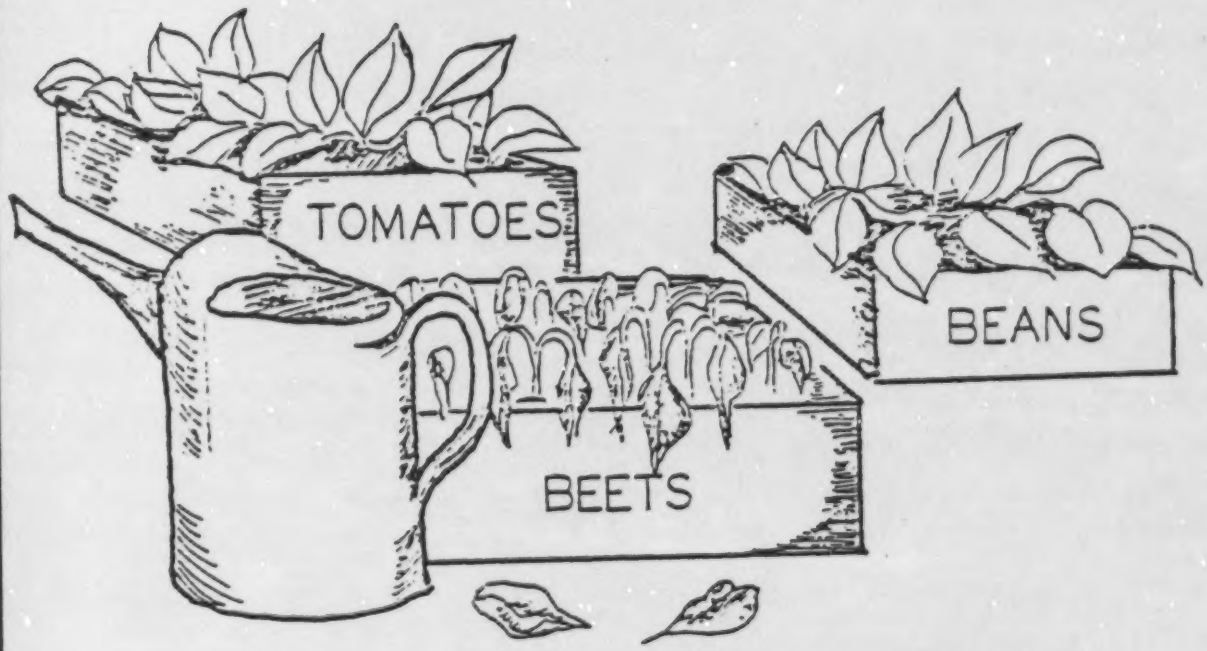
Maria's Vegetable Garden

Maria is 12 years old. She uses a wheel chair. Maria's father works hard but the family is always short on money. Maria decides to help by growing vegetables at home in wooden boxes. A garden will save money. Mrs. Ruiz, a neighbor, gives Maria a book on how to grow vegetables. She also helps Maria plant her garden. But from now on Maria wants to do everything herself. The only help she needs is from her brother, Carlos. Carlos carries the vegetable boxes up to the roof on sunny days. The rest of the time the boxes are kept on the back porch. In the summer this room gets very hot. In the winter, it gets very cold.

One summer day, Maria looks at the plants. Some of the plants are fine. But other plants are limp, and their leaves are turning brown. "Wow," says Maria, " I have a problem!" Here is a picture of what she sees:



When you have read the story carefully, you may go on to the next page.

What is Maria's Problem? Write it below.

What are some of the different things Maria might do to solve her problem? Write them below. Start each idea at a new number.

1.

2.

3.

4.

Maria decides to plant more beets. But first, what things might Maria do to make sure the new beets do not die? Write your ideas below. Start each idea at a new number.

1.

2.

3.

4.

5.

When you finish your ideas,
you may go on.

Maria has been thinking about ideas to explain why her beets died. But now she is stuck. So far she has thought only about pests, like bugs or animals. Below are several ideas. Some are examples of Maria's habit of thinking only about pests. Other ideas show entirely **different** ways of thinking about why the beets died. Put an X mark in front of each idea that is a **different** approach:

_____ Birds might have eaten at the leaves while the boxes were on the roof. 27

_____ Maybe the beets did not get enough water. 28

_____ Maria's cat, Lopez, might have used the box of beets as a bed. 29

_____ Mrs. Ruiz said that vegetables need fresh air. 30

_____ Snails could have attacked the leaves. 31

Below are ideas for explaining why the beets might have died. How might Maria check each idea to see if it is a good answer?

1. Maybe someone dropped the box and hurt the beets. What different things might Maria do to check this idea? Write your answers below: ☐ 32

2. Some vegetables do not grow well when they are planted too close together. Maybe Maria planted too many beets in the box. Where might Maria look for the facts to decide? Write your ideas below: ☐ 33

When you finish, you may go on.

What do you feel about this problem? Please draw a circle around the answer that tells what you feel:

How much did you enjoy this problem?	Very Little	Little	Medium	Much	Very Much	42
How hard was this problem?	Very Easy	Easy	Medium	Hard	Very Hard	43
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How lucky a student is.	Not Important	Medium Important	Very Important	52
	1	2	3	

STOP

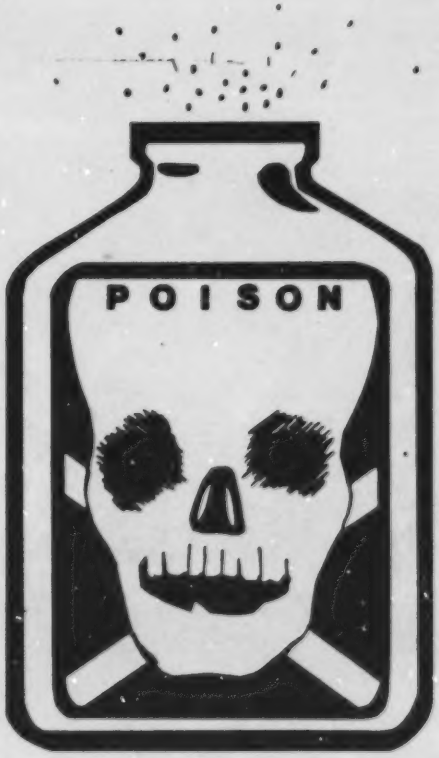
ThinkAbout Exercises

Name _____ Teacher _____

Town _____ State _____

The Deadly Drink

Laurie is very upset. The night before her friends, the Kellys, had an accident. Their little son, Mike Kelly, swallowed some car polish. Mr. Kelly had poured the polish into an old soft drink can. Mike thought he was going to have a good drink. Mike will get well, but he has been very sick. "If this can happen to Mike," Laurie telis her class, "it can happen to other young children, too." Laurie's teacher says that there are many things in homes that are poisons, if they are swallowed. They include glue, oven cleaners and paint. The students also talk about how to avoid the danger of poisons. For example, poisons should be kept out of the reach of children. Poison cans should be thrown away after use. Also, parents should know the telephone number of the poison control center.



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Laurie's class decides to send a note home to parents to warn them of the danger of poisons and what to do about it. You help. Write a short note in the box below that the class might send:

When you finish, you may go on.

What do you feel about this problem? Please draw a circle around the answer that tells what you feel:

How much did you enjoy this problem?	Very Little	Little	Medium	Much	Very Much
How hard was this problem?	Very Easy	Easy	Medium	Hard	Very Hard
How smart are you at problems like these?	Very Poor	Poor	Fair	Good	Very Good
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	1	2	3	4	5

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How smart a student is.	Not Important	Medium Important	Very Important
How easy the problem is.	Not Important	Medium Important	Very Important
How lucky a student is.	Not Important	Medium Important	Very Important
	1	2	3

STOP

ThinkAbout Exercises

Name _____ Teacher _____

Town _____ State _____

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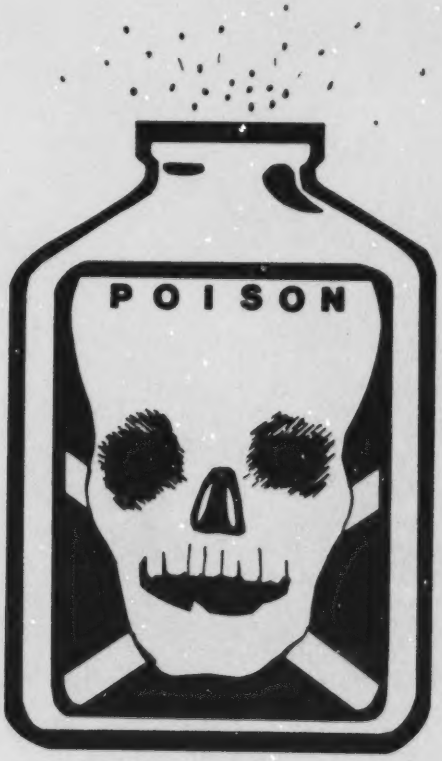

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Laurie's class decides to warn the neighborhood about the danger of poisons in the home and how to prevent accidents. Laurie and Alfredo are chosen to plan this project. You help. List the groups they might warn and tell how they might warn them:

When you finish, you may go on.

Alfredo plans to speak to several different groups to warn them of the danger of poisons. He will talk to the parents' club. He will also visit the kindergarten classes and talk with very young children. What things should Alfredo do in order to prepare and give the best speeches possible? Make a list of your suggestions below:

1.

2.

3.

4.

5.

When you finish, you may go on.

What do you feel about this problem? Please draw a circle around the answer that tells what you feel:

How much did you enjoy this problem?	Very Little	Little	Medium	Much	Very Much
How hard was this problem?	Very Easy	Easy	Medium	Hard	Very Hard
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How easy the problem is.	Not Important	Medium Important	Very Important
How lucky a student is.	Not Important	Medium Important	Very Important
	1	2	3

STOP

ThinkAbout Exercises

Name _____ Teacher _____

Town _____ State _____

The Deadly Refrigerator

Alice is very upset. The night before she searched for a lost child. Little Ralph Cohen had been playing hide-and-seek with his friends. Ralph hid in an old-fashioned refrigerator. Once he was inside, the door locked behind him. Ralph did not know that such refrigerators are air-tight. In a few hours Ralph would use up the air. Then he would die. Luckily, Alice heard sounds coming from the refrigerator.

"If this can happen to Ralph," Alice tells her class, "it can happen to other young children, too." Alice's teacher says that many people throw away old refrigerators without knowing of this danger. The students also talk about how to avoid the danger. For example, the locks should be taken off before the refrigerators are thrown away. Also, the doors can be removed. Or, the refrigerator can be taken to a recycling center.

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Alice's class decides to send a note home to parents to warn them of the danger of old refrigerators and what to do about it. You help. Write a short note in the box below that the class might send:

When you finish, you may go on.

What do you feel about this problem? Please draw a circle around the answer that tells what you feel:

How much did you enjoy this problem?	Very Little	Little	Medium	Much	Very Much
How hard was this problem?	Very Easy	Easy	Medium	Hard	Very Hard
How smart are you at problems like these?	Very Poor	Poor	Fair	Good	Very Good
How much of your ability did you use?	Very Little	Little	Some	A lot	All my Ability
How hard did you try?	Very Little	Little	Medium	Hard	Very Hard
Compared to the other students how well did you do?	Very Poor	Poor	Fair	Well	Very Well
How happy are you with your ideas?	Very Unhappy	Unhappy	Fair	Happy	Very Happy
	1	2	3	4	5

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How hard a student tries.	Not Important	Medium Important	Very Important
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How easy the problem is.	Not Important	Medium Important	Very Important
How lucky a student is.	Not Important	Medium Important	Very Important
	1	2	3

STOP

ThinkAbout Exercises

Name _____ Teacher _____

Town _____ State _____

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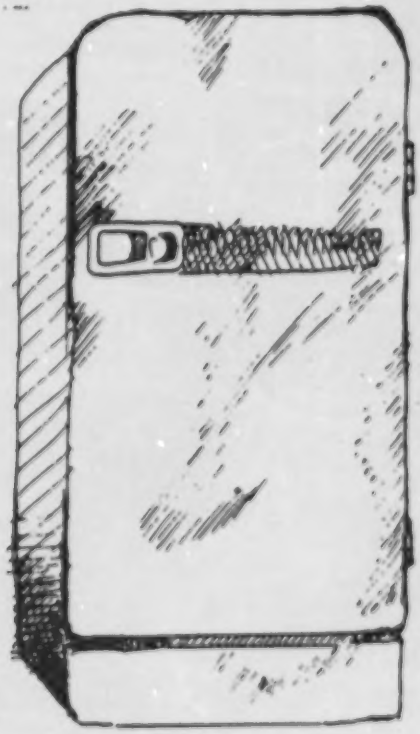

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Alice's class decides to warn the neighborhood about the danger of old refrigerators and how to prevent accidents. Alice and Carlos are chosen to plan this project. You help. List the groups they might warn and tell how they might warn them:

When you finish, you may go on.

Carlos plans to speak to several different groups to warn them of the danger. He will talk to the parents' club. He will also visit the kindergarten classes and talk to very young children. What things should Carlos do in order to prepare and give the best speeches possible? Make a list of your suggestions below:

1.

2.

3.

4.

5.

When you finish, you may go on.

What do you feel about this problem? Please draw a circle around the answer that tells what you feel:

How much did you enjoy this problem?	Very Little	Little	Medium	Much	Very Much
How hard was this problem?	Very Easy	Easy	Medium	Hard	Very Hard
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How easy the problem is.	Not Important	Medium Important	Very Important
How lucky a student is.	Not Important	Medium Important	Very Important
	1	2	3

STOP

ThinkAbout Exercises

Name _____ Teacher _____

Town _____ State _____

Jim's Spacecraft

Jim suddenly remembers that the Science Fair will begin soon. He hopes it is not too late to enter the contest! Jim wants to build a model of a spacecraft big enough to hold him. Jim has a large cardboard box in his garage. It is just perfect for the body of the spacecraft. The garage is also filled with wood, tools and gadgets.

Jim knows he probably does not have enough time to build a spacecraft alone. He has a lot to do and is eager to start.

When you have read the story, you may go on to the next page.

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Jim decides to make a plan so the spacecraft will be finished before the Science Fair deadline. But first, what things might Jim want to know in order to set up a plan? Make a list of questions that he might ask:

1.

2.

3.

4.

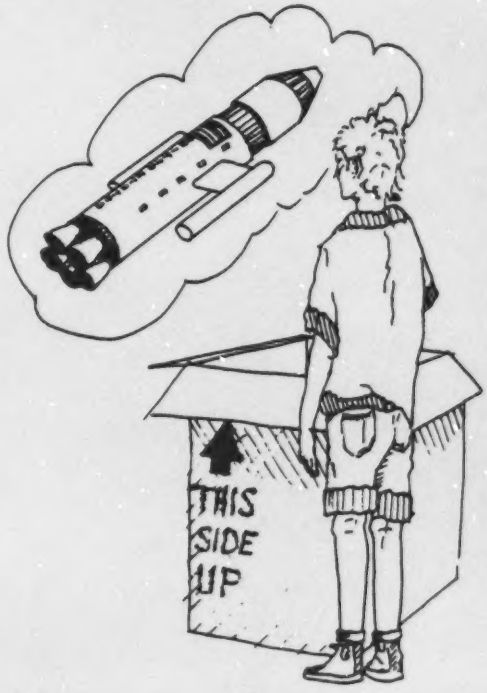
5.

When you finish, you may go on.

Now that Jim has some questions in mind, where might he go and who might he talk to in order to find some answers?

1. For example, how might Jim find out the Science Fair deadline? Write your ideas below:

2. How might Jim find out more about actual spacecraft so his model will look real? Write your ideas below:



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	1	2	3

STOP

ThinkAbout Exercises

Name _____ Teacher _____

Town _____ State _____

Jan's Report

Jan's eyes open wide as she looks at the photograph of the Indian dancer in the newspaper. These Indians wear costumes to represent different animals, birds, plants, and the sun and moon. Through their dances the Indians give thanks to nature. The dances are held several times a year about 50 miles from Jan's home. Outsiders cannot watch the dances unless they are invited.

"These Indians and their dances would make a good report," thinks Jan. Jan's class has to do reports on interesting groups of people. Students must get information for their reports in different ways than just looking things up in the library. Several students can work together on a report.

Jan knows she probably does have enough time to do this report alone. Jan has a lot to do and is eager to start.

When you have read the story, you may go on to the next page.

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Jan decides to make a plan so the report will be finished before the teacher's deadline. But first, what things might Jan want to know in order to set up a plan? Make a list of questions that she might ask:

1.

2.

3.

4.

5.

When you finish, you may go on.

Now that Jan has some questions in mind, where might she go and who might she talk to in order to find some answers?

1. For example, how might Jan find out about Indian customs and beliefs? Write your ideas below:

2. If Jan decides to visit the Indians, how might she find out the exact days that the dances are held? Write your ideas below:

When you finish, you may go on.

What do you feel about this problem? Please draw a circle around the answer that tells what you feel:

How much did you enjoy this problem?	Very Little	Little	Medium	Much	Very Much
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Compared to the other students how well did you do?	Very Poor	Poor	Fair	Well	Very Well
How happy are you with your ideas?	Very Unhappy	Unhappy	Fair	Happy	Very Happy
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How important is each of the following things for doing well on this problem?

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How easy the problem is.	Not Important	Medium Important	Very Important
How lucky a student is.	Not Important	Medium Important	Very Important
	1	2	3

STOP

ThinkAbout Exercises

Name _____ Teacher _____

Town _____ State _____

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Jim knows he probably does not have enough time to build a spacecraft alone. He has a lot to do and is eager to start.

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A good planner thinks ahead to the different things that must be done to build the spacecraft. Some of these things must be done **before** others. For example, Jim decides that one of the last jobs is to paint his spacecraft. But many other things must be done before! What are some of them? Write below what might be Jim's first step. You may then add as many steps as you wish:

1. A first step is:

2. A second step is:

3. A third step is:

4. A fourth step is:

5. A fifth step is:

When you finish, you may go on.

After Jim worked many hours on his project, he suddenly finds that the Science Fair deadline is sooner than he was told. He might not finish in time! What are some of the different kinds of things that he could do now? Write your ideas below. Number them as you go:

When you finish, you may go on.

What do you feel about this problem? Please draw a circle around the answer that tells what you feel:

How much did you enjoy this problem?	Very Little	Little	Medium	Much	Very Much
How hard was this problem?	Very Easy	Easy	Medium	Hard	Very Hard
How smart are you at problems like these?	Very Poor	Poor	Fair	Good	Very Good
How much of your ability did you use?	Very Little	Little	Some	A lot	All my Ability
How hard did you try?	Very Little	Little	Medium	Hard	Very Hard
Compared to the other students how well did you do?	Very Poor	Poor	Fair	Well	Very Well
How happy are you with your ideas?	Very Unhappy	Unhappy	Fair	Happy	Very Happy
	1	2	3	4	5

How important is each of the following things for doing well on this problem?

How hard a student tries.	Not Important	Medium Important	Very Important
How smart a student is.	Not Important	Medium Important	Very Important
How easy the problem is.	Not Important	Medium Important	Very Important
How lucky a student is.	Not Important	Medium Important	Very Important
	1	2	3

STOP

ThinkAbout Exercises

Name _____ Teacher _____

Town _____ State _____

Jan's Report

Jan's eyes open wide as she looks at the photograph of the Indian dancer in the newspaper. These Indians wear costumes to represent different animals, birds, plants, and the sun and moon. Through their dances the Indians give thanks to nature. The dances are held several times a year about 50 miles from Jan's home. Outsiders cannot watch the dances unless they are invited.

"These Indians and their dances would make a good report," thinks Jan. Jan's class has to do reports on interesting groups of people. Students must get information for their reports in different ways than just looking things up in the library. Several students can work together on a report.

Jan knows she probably does have enough time to do this report alone. Jan has a lot to do and is eager to start.

When you have read the story, you may go on to the next page.

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A good planner thinks ahead to the different things that must be done to make a report. Some of these things must be done **before** others. For example, Jan knows that one of the last things to do is give the report in class. But many other things must be done before! What are some of them? Write below what might be Jan's first step. You may then add as many more steps as you wish:

1. A first step is:

2. A second step is:

3. A third step is:

4. A fourth step is:

5. A fifth step is:

When you finish, you may go on.

After Jan worked many hours on the report, she suddenly finds that the deadline is sooner than she was told. She might not finish in time! What *are some of the different kinds of things* that she could do now? Write your ideas below. Number them as you go:

When you finish, you may go on.

What do you feel about this problem? Please draw a circle around the answer that tells what you feel:

How much did you enjoy this problem?	Very Little	Little	Medium	Much	Very Much
How hard was this problem?	Very Easy	Easy	Medium	Hard	Very Hard
How smart are you at problems like these?	Very Poor	Poor	Fair	Good	Very Good
How much of your ability did you use?	Very Little	Little	Some	A lot	All my Ability
How hard did you try?	Very Little	Little	Medium	Hard	Very Hard
Compared to the other students how well did you do?	Very Poor	Poor	Fair	Well	Very Well
How happy are you with your ideas?	Very Unhappy	Unhappy	Fair	Happy	Very Happy
	1	2	3	4	5

How important is each of the following things for doing well on this problem?

How hard a student tries.	Not Important	Medium Important	Very Important
How smart a student is.	Not Important	Medium Important	Very Important
How easy the problem is.	Not Important	Medium Important	Very Important
How lucky a student is.	Not Important	Medium Important	Very Important
	1	2	3

STOP

Attitudes Toward Problem Solving

Name _____
First Last

Boy _____ Girl _____ Teacher _____

School _____ Date _____

Town _____ State _____

Below are things that students sometimes say about school and about their ways of thinking. Look at each statement. If you agree with a statement, draw a circle around either **Strongly Agree** or **Agree**. If you disagree, draw a circle around either **Strongly Disagree** or **Disagree**. The question mark (?) means that you cannot decide.

1. I think I have the makings of of a really creative thinker.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
2. Suggesting an idea that turns out to be wrong shows just how difficult thinking really is.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
3. Problems are unfair that have more than one right way of solving them.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
4. I often have an idea for an answer which I don't tell because I am afraid it may be wrong.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
5. It's best to stick with one idea. Students may become confused by too many ideas.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
6. I am able to get unusual ideas – ideas that the other students don't often think of.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
7. Suggesting an idea which later is proven wrong shows that some students are better thinkers than others.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
8. It is unfair to make students keep searching for answers after they have already tried several times.	Strongly Agree	Agree	?	Disagree	Strongly Disagree

When you finish, you may go on.

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9. I usually find it hard to decide whether an idea is a good one or not.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
10. Suggesting an idea which later turns out to be the wrong idea wastes time and holds things up.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
11. Some students are just naturally poorer at thinking than others and there is not much they can do to improve.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
12. When I am working on a problem, I usually like to figure things out by myself instead of getting my ideas from others.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
13. I usually would rather work on problems I know I can solve than on ones that may be too hard for me.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
14. The best problem solvers don't make mistakes.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
15. Students who find it hard to work with ideas should be allowed to do other things in school.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
16. I like to work on problems like mysteries and puzzles that make me think.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
17. Ideas just seem to "come to you," and there isn't much you can do to get more.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
18. Most of the students in my class are better at solving problems than I am.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
19. I am often curious about unexplained things around me and want to try to understand them.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
20. If you don't have any good ideas after working on a problem awhile, you will not be likely to get any.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
21. A good thinker usually sees the answer to a problem right away before most others.	Strongly Agree	Agree	?	Disagree	Strongly Disagree

When you finish, you may go on.

22. Students should keep ideas to themselves until they know they are right.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
23. I am eager to learn.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
24. Finding new ideas for a problem that you have already finished just slows up things.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
25. Suggesting an idea which later turns out to be wrong means that someone was not paying attention.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
26. I often keep my ideas to myself because I think others may laugh at them.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
27. The best thinkers usually get the answer before most other students do.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
28. The best advice for good thinking is to keep your desk neat so you can start off with a clear mind.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
29. Having too many ideas for solving a problem can be just as bad as having no ideas at all.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
30. It is best to let others give their ideas first so you will not make the same mistakes they do.	Strongly Agree	Agree	?	Disagree	Strongly Disagree

STOP.

APPENDIX C

LIST OF ANALYZED TESTS AND TEST ANALYSIS FORMS

LIST OF ANALYZED TESTS

1. Achievement Series: SRA Assessment Survey
   1974-75, grades 4-5, 6-7, use of sources
   Science Research Associates, Inc., 155 N. Wacker Drive,
   Chicago, IL 60606

2. A Child Attitude Inventory for Problem Solving
   Grades 5 and 6

3. A Look at Lit: The NCTE Cooperative Test of Critical Reading
   of Appreciation
   Grades 4-6
   Education Testing Service, Princeton, NJ 08540

4. Alternate Uses
   Grades 6-16+
   Sheridan Psychological Services, Inc.

5. Bristol Achievement Tests
   Ages 8-13, meaning of language, study, skills, processes,
   interpretations
   Thomas Nelson & Sons, Ltd., England

6. California Achievement Tests
   Grades 4-6, 1979 edition
   CTB/McGraw Hill, Del Monte Research Park, Monterey, CA 93940

7. California Short Form Test of Mental Maturity
   1963 revision, grades K-1.5, 1.5-3.5, 3-4, 4-6, 6-7, 7-8, 8-12,
   12-16
   CTB/ McGraw Hill

8. California Test of Mental Maturity
   1963 revision, grades K-1.5, 1.5-3.5, 3-4, 4-6, 6-7, 7-8, 8-12,
   12-16
   CTB/McGraw Hill

9. Children's Personality Questionnaire
   Shrewd, individualism, venturesome
   Institute for Personality and Ability Testing

10. Children's Reactive Curiosity Scale
    1964, grades 4, 5, 6
    Psychological Reports, 1964, 15, 323-334

11. Comprehensive Tests of Basic Skills (CTBS)
    Grades 2-12, study skills, expression, concepts, application,
    graphic materials
    CTB/McGraw Hill

12. Comprehensive Tests of Basic Skills: Language Level 2
    Grades 4-6, mechanics, expression, spelling, total
    CTB/McGraw Hill

13. Comprehensive Tests of Basic Skills: Science, expanded edition
    1973, grades 4.5-6.9, recognition classification, quantification, identification of trend prediction from data, hypothesis evaluation and design analysis
    CTB/McGraw Hill

14. Consequences
    Grades 9-16
    Sheridan Psychological Services, Inc.

15. Cooperative School and College Ability Tests
    Grades 4-6, convergent and divergent thought
    Addison-Wesley Publishing Co., Inc.

16. The Cornell Conditional Reasoning Test
    1964, grades 4-12, deductive logic
    University of Illinois-Urbana, Measurement and Research Division, 307 Engineering Hall, Urbana, IL 61801

17. Creativity Attitude Survey
    Grades 4-6, confidence in own ideas, fantasy, theoretical and aesthetic orientation, openness to impulse expression, desire for novelty
    Psychologists and Educators, Inc.

18. The Cornell Class Reasoning Test
    1964, grades 4-12, deductive logic
    University of Illinois-Urbana

19. Creativity Tests for Children
    Grades 4-6
    Sheridan Psychological Services, Inc.

20. Elementary Social Causality Test
    Grades 4-6
    Research Council of Educational Research, Council of Greater Cleveland, Psychology Department, Rockefeller Building, Cleveland, OH 44113

21. FIRO Scales
    Grades 4-8

22. Henmon-Nelson Test of Mental Ability
    Grades 3-6, 6-9
    Houghton-Mifflin Co.

23. Impulsivity Scale
    Grades 4, 5, 6
    Journal of Genetic Psychology, 1965, 107, 117-126; 1959, 95, 211-216

24. Intellectual Achievement Responsibility Questionnaire
Grades 3-6, 8, 10, 12
Child Development, 1965, 36, 91-109

25. Intolerance of Ambiguity Scale
Grade 6
Proceedings of Iowa Academy of Science, 1959, 66, 388-394

26. Iowa Tests for Basic Skills
Grades 3-9
Houghton Mifflin Co., 110 Tremont St., Boston, MA 02107

27. Iowa Tests for Educational Development
Grades 1-12
Science Research Associates, Inc.

28. Lorge-Thorndike Intelligence Tests
Grades 3-13
Houghton Mifflin Co.

29. Test of Concept Utilization
Ages 4.5-18.5
Western Psychological Service

30. Test of Creative Potential
Grades 2-12+
Monitor

31. Tests of General Ability
Grades K-2, 2-4, 4-6, 6-9, 9-12
Science Research Associates, Inc.

32. Torrance Tests of Creative Thinking
1974, grades K-graduate school, fluency, flexibility, originality
Personnel Press, Education Center, P.O. Box 2649, Columbus, OH 43216

33. Learning Ability Profile
1975-76, grades 5-16, certainty, problem solving, flexibility, frustration
Falcon Research and Development, 2350 Alamo Ave., S.E., Albuquerque, NM 87106

34. Matching Familiar Figures
Jerome Kagan, Harvard University, William James Hall, Cambridge, MA 02138

35. Metropolitan Achievement Tests
Grades 3-6, problem solving, concepts
Psychological Corporation

36. The Oregon Academic Ranking Test
    Grades 3-7, convergent/divergent tk.
    Western Psychological Services

37. Otis-Lennon Mental Ability Test or Otis Quick-Scoring Mental Abilities Test
    Grades K-12
    Harcourt Brace Jovanovich, Inc.

38. Otis-Lennon School Ability Test
    Grades 1-12, cognitive processes
    Psychological Corporation

39. Progressive Matrices
    Grades 5+, reasoning and systematic thought
    Psychological Corporation

40. Ross Test of Higher Cognitive Abilities
    1976, grades 4-6, analogies, deductive reasoning, missing premises, abstract relations, sequential analysis, questioning strategies, analysis of relevant and irrelevant information, analysis of attributes
    Academic Therapy Publications, 1539 Fourth St., San Rafael, CA 94901

41. Scholastic Mental Ability Test
    Grades K-8
    Scholastic Testing Service, Inc.

42. SRA Achievement Series Multi-level Edition
    Grades 4-9, work-study skills, language arts
    Science Research Associates, Inc.

43. SRA Primary Mental Abilities
    1962, grades K-12, verbal meaning, conceptual speed, spatial relations, etc.
    Science Research Associates, Inc.

44. Stanford Achievement Test
    Houghton Mifflin Co.

45. STS Educational Development Series: Scholastic Tests
    Grades 2-12, everyday problems
    Scholastic Testing Service, Inc.

46. Vineland Social Maturity Scale
    All ages
    American Guidance Service, Inc.

47. Wisconsin Tests of Reading Development: Study Skills
    1970-73, grades 5-6, 6-7, schedules (relationships) and schedules (problem solving)
    NCS Interpretive Scoring Systems, 4401 West 76th St., Minneapolis, MN 55435

Test Name: _____ Reviewer: _____

Sub-Scale Title: _____ Number of items on sub-scale: _____

Effective Expression	Test Item Number
1. Plan what is to be communicated and how to communicate it.	
2. Select an appropriate method (e.g., written, oral, audiovisual, etc) for effectively communicating information.	
3. Demonstrate an appreciation of the necessity to use clear and precise language and/or visual images to effectively inform, persuade, or entertain.	
4. Encourage the expression and clarification of ideas by others.	

Sub-Scale Title: _____ Number of items on sub-scale: _____

Managing the Independent Learning Process	Test Item Number
1. Perceive that as individuals they have the responsibility to direct their personal actions.	
2. Assess their strengths and limitations relative to a given task.	
3. Use self-evaluation to guide their progress toward a goal.	
4. Ask questions to clarify a problem or a task.	
5. Manage their time and resources effectively.	
6. Identify situations where it is necessary or appropriate to gather data on a given topic from more than one source.	
7. Work cooperatively with others on a team or in a group.	

Test Name: _____ Reviewer: _____

Sub-Scale Title: _____ Number of items on sub-scale: _____

Confident and Flexible Thinking	Test Item Number
8. Use convergent and divergent thinking skills.	
9. Take reasonable risks in order to better comprehend a topic or to solve problems.	
10. Understand that a difficult problem is really an opportunity to develop a new approach to a subject.	

Sub-Scale Title: _____ Number of items on sub-scale: _____

Confident and Flexible Thinking	Test Item Number
1. Demonstrate a questioning attitude toward informational statements (i.e., who says so? Why? under what circumstances? is the implied conclusion supported by the evidence?)	
2. Demonstrate a persistent, patient, and consistent attitude toward problem-solving and take satisfaction in even slow progress toward the solution of a problem.	
3. Suspend judgment until a sufficient amount of relevant information has been considered, or until suspension of judgment is no longer practical.	
4. Use a variety of problem-solving techniques and strategies.	
5. Change from one problem-solving strategy or technique to another or modify a given strategy or technique in order to accommodate a particular situation, challenge, or problem.	
6. Avoid approaching problems or situations in a habit-bound manner.	
7. Remain receptive to new ideas.	

Test Name: _____ Reviewer: _____

Sub-Scale Title: _____ Number of items on sub-scale: _____

Systematic Reasoning	Test Item Number
6. Derive generalizations from facts.	
7. Identify common propaganda techniques.	
8. Distinguish between fiction and non-fiction.	

Sub-Scale Title: _____ Number of items on sub-scale: _____

Systematic Reasoning	Test Item Number
h. Sequence and organize information, compare, contrast, and classify it for analysis and display.	
i. Interpret and evaluate the coherence, completeness, and usefulness of information.	
j. Decide what action, if any, should be taken, using specific criteria.	
2. Use analogies or metaphors to help clarify one's thinking.	
3. Use visual representation(s) as a study, reasoning or problem-solving aid.	
4. Distinguish between fact and opinion.	
5. Distinguish between relevant and irrelevant information as it relates to a specific situation.	

Test Name: _____ Reviewer: _____

Sub-Scale Title: _____ Number of items on sub-scale: _____

Systematic Reasoning	Test Item Number
1. Use a systematic process to direct their thinking: a. Identify a problem (or goal).	
b. Restructure information or redefine problem (or goal) if necessary.	
c. Identify alternative hypotheses/ approaches to problem (or goal).	
d. Identify outcomes of possible approaches.	
e. Decide what action, if any, should be taken using specific criteria.	
f. Recognize when additional information is needed and where the needed information may be obtained.	
g. Plan a strategy and collect appropriate information.	

Y A PROBLEM (OR GOAL)	
CURE INFO. OR REDEFINE PROBLEM N) IS NECESSARY	
Y ALT HYP/APPROACHES TO M (OR GOAL)	
Y OUTCOMES OF POSSIBLE CHES	
HAT ACTION, IF ANY, SHOULD BE TAKEN SPECIFIC CRITERIA	
E WHEN ADD'L INFO. IS NEEDED AND EEDED INFO MAY BE OBTAINED	
STRATEGY AND COLLECT ATE INFO.	
E & ORGANIZE INFO; COMPARE, CON- CLASSIFY FOR ANALYSIS & DISPLAY	
ET & EVAL. COHERENCE, COMPLETENESS, NESS OF INFO.	
OGIES & METHODS TO AID/A MY'S THINKING	
AL REPRESENTATIONS) AS A STUDY US OR PROBLEM SOLVING AID	
WEEN DIFFERENCES BETWEEN PART & WHOLE	
ETWEEN REL & IRREL INFO AS To SPECIFIC SITUATION	
GENERALIZATIONS FROM FACTS	
Y COMMON PROPAGANDA TECHNIQUES	
BETWEEN FICTION & NONFICTION	
STRATE QUESTIONING ATTITUDE D INFORMATIONAL STATEMENTS	
PERSISTENT, PATIENT & CONSISTENT OF TOWARD GOAL; TAKE SATIS. IN W PROGRESS TOWARD SOLUTION	
JUDGMENT UNTIL SUFF. AMOUNT REL NSIDERED OR TIL SUSPENSION OF ENT NO LONGER PRACTICAL	
IETY OF PROBLEM SOLVING UES & STRATEGIES	
OR MODIFY PROB SOLV. TECH OR TO ACCOMODATE PARTICULAR SITUATION LE OR PROBLEM	
APPROACHING PROBLEMS OR SITUATIONS T ORDERED MANNER	
RECEPTIVE TO NEW IDEAS	
NVERGENT & DIVERGENT ING SKILLS	
EAB. RISKS IN ORDER TO BETTER MEND TOPIC OR TO SOLVE PROBLEMS	
ND THAT DIFFICULT PROB. IS APPROA. LOP NEW APPROACH TO SUBJECT	
AS INDIVIDUALS HAVE RESP. TO ERSONAL ACTIONS	
STRENGTHS & WEAKNESSES RELATIVE EW TASK	
-EVALUATION TO GUIDE PROGRESS D GOAL	
STIONS TO CLARIFY PROBLEM OR	
TIME AND RESOURCES VOLVED	
SITUATIONS WHERE NECESSARY OR RTY TO GATHER DATA ON TASK FROM L WIDE SOURCES	
PERATIVELY ON TEAM OR IN GROUP	
HT TO COMMUNICATE & HOW	
APPROPRIATE METHOD FOR LY COMMUNICATING INFO	
PRECIATION OF NECESSITY TO USE ECIFIC LANG & OR VISUAL IMAGES T INFORM. PERSUADE OR ENTERTAIN	
LE EXPRESSION & CLARIFICATION BY OTHERS	

BEST COPY AVAILABLE

APPENDIX D

THE CONTENT, USE OF THINKABOUT, AND EXAMINER QUESTIONNAIRES

ThinkAbout

Contextual Data-Gathering Instrument

(September - October Testing Period)

Name: _____

1. _____ Male _____ Female

2. What is the highest degree that you have earned?

_____ Bachelor's degree
_____ Master's degree
_____ Specialist's degree
_____ Doctor's degree
_____ Non-degreed (student teacher, intern, aide)
_____ Non-degreed (certified)

3. Which subject(s) do you teach?

_____ Art-Music
_____ Home Economics
_____ Industrial Arts
_____ Physical Education-Health
_____ Foreign Language
_____ Language Arts, excluding Reading
_____ Math
_____ Science
_____ Social Science, including History
_____ Special Education
_____ Other (please specify) _____

4. Which best describes your teaching setting?

_____ Self-contained classroom
_____ Non-traditional classroom
_____ Departmental (by subject)

5. Is your principal assignment a team-teaching assignment?

_____ Yes _____ No

6. School Name: _____

7. School Address: _____

8. Name or number of your school district: _____

9. Which best describes the location of your school?

_____ Large city, over 250,000 people
_____ Suburb of large city
_____ Middle-size city, 50,000 - 250,000 people
_____ Suburb of middle-size city
_____ Small city or town, less than 50,000 people
_____ Rural area, not near a large or middle-size city

10. What is the grade level of your class?

_____ 5th
_____ 6th
_____ Combined 4th-5th
_____ Combined 5th-6th
_____ Other (please specify) _____

11. What is the number of students in <u>your</u> class being tested? _____

12. Overall, how would you rate academic achievement of the students in your class?

_____ Above average
_____ Average
_____ Below Average

13. What do you think best describes the socio-economic status of your class?

_____ Lower
_____ Lower middle
_____ Middle
_____ Upper middle
_____ Upper
_____ Considerably varied

14. Approximately what percentage of your class speaks English as a second language? _____%

15. Indicate in the spaces below the approximate percentage of the students in your class that are:

_____ % Black
_____ % White
_____ % Oriental
_____ % Native American/Native Canadian
_____ % Spanish descent
_____ % Other (please specify) _____

16. Who or what was your most valuable source of information on ThinkAbout?

_____ Another teacher
_____ My building administration
_____ District school administration
_____ State school administration
_____ Agency for Instructional Television direct mailing
_____ Instructional television agency or station
_____ Educational magazine or journal
_____ Other (please specify) _____

17. Who are the strongest supporters of ThinkAbout in your school building?

_____ Administrators
_____ Teachers
_____ Library/Media Specialist
_____ Instructional television representative (designated)
_____ No strong supporters

18. How did your adoption of ThinkAbout come about?

_____ Mostly my own idea
_____ Based on the recommendation of one or more of the following:

_____ Other teachers
_____ My building administration
_____ Instructional television agency or station personnel
_____ Library/Media Specialist
_____ Instructional television representative (designated)

19. Did you attend a workshop or inservice on ThinkAbout?

_____ Yes _____ No

20. If yes, who sponsored the workshop or inservice?

_____ State education or instructional television agency
_____ Regional education or instructional television agency
_____ Local education or instructional television agency
_____ Other (please specify) _____

21. If yes in item 20, how long was the workshop or inservice?

_____ 1-2 hours
_____ 2-4 hours
_____ 4-8 hours
_____ Other (please specify) _____

22. Have you attended other workshops or inservice sessions on instructional television use?

_____ No
_____ Yes, one
_____ Yes, two
_____ Yes, three
_____ Yes, more than three

23. Did you receive any ThinkAbout promotional material?

_____ Yes _____ No

24. Did you receive a copy of the ThinkAbout Preliminary Teacher's Guide?

_____ Yes
_____ Yes, but not in time for the first program
_____ No

25. Have you used instructional television in your classroom in the past?

_____ Yes _____ No

26. If yes, how often?

_____ Once a week or more
_____ At least once in two weeks
_____ At least once a month
_____ Less than once a month

CIRCLE THE NUMBER OF YOUR RESPONSE FOR ITEMS 27-30

27. The state of repair of television viewing equipment in my school is

Excellent 5 4 3 2 1 Poor

28. Television viewing equipment is available when I need it.

Always 5 4 3 2 1 Seldom

29. In general, I feel that the usefulness of television as an instructional resource is

Excellent 5 4 3 2 1 Poor

30. The quality of reception on the television that I watched ThinkAbout on was

Good 5 4 3 2 1 Poor

31. What other instructional television series, if any, did you use last year?

_____

_____

32. What other instructional television series, if any, are you using this year?

_____

_____

THANK YOU!

Name _____

School _____

Town _____

State _____

USE OF THINKABOUT

DIRECTIONS: Please circle the numbers or fill in your responses

SECTION A: BEFORE VIEWING THINKABOUT

1. Immediately before viewing ThinkAbout how often do you discuss with your class:

a.	the main idea of program content?	1	Rarely	2	Some of the time	3	Most of the time	4 Almost always
b.	specific important points of program content?	1	Rarely	2	Some of the time	3	Most of the time	4 Almost always
c.	definitions of concepts related to program content?	1	Rarely	2	Some of the time	3	Most of the time	4 Almost always
d.	examples of concepts related to program content?	1	Rarely	2	Some of the time	3	Most of the time	4 Almost always

2. What is the average amount of time you spend with your class in discussions related to ThinkAbout program content immediately before viewing? ____ Minutes

3. How would you characterize your class discussions of ThinkAbout programs immediately before viewing? 1 Mostly Teacher Talking 2 Mostly Student Talking 3 Even--both teacher & student talking 4 Not Sure

SECTION B: AFTER VIEWING THINKABOUT

4. Immediately after viewing ThinkAbout how often do you discuss with your class:

a.	the main idea of program content?	1	Rarely	2	Some of the time	3	Most of the time	4 Almost always
b.	specific important points of program content?	1	Rarely	2	Some of the time	3	Most of the time	4 Almost always
c.	definitions of concepts related to program content?	1	Rarely	2	Some of the time	3	Most of the time	4 Almost always
d.	examples of concepts related to program content?	1	Rarely	2	Some of the time	3	Most of the time	4 Almost always

5. What is the average amount of time you spend with your class in discussions related to ThinkAbout program content immediately after viewing? ____ Minutes

6. How would you characterize your class discussions of ThinkAbout programs immediately after viewing? 1 Mostly Teacher Talking 2 Mostly Student Talking 3 Even--both teacher & student talking 4 Not Sure

SECTION C: ATTITUDES TOWARD THINKABOUT

Listed below are some statements about various aspects of ThinkAbout. Please indicate your reaction to each by circling the appropriate number.

	Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree
7. I find ThinkAbout programs interesting.	1	2	3	4	5
8. I bring up ideas from ThinkAbout programs when teaching other subjects.	1	2	3	4	5
9. I would encourage other teachers to use ThinkAbout.	1	2	3	4	5
10. ThinkAbout shows great possibilities for stimulating my creativity.	1	2	3	4	5
11. When teachers use ThinkAbout they lose some of their importance in the classroom setting.	1	2	3	4	5
12. The personal relationship between student and teacher is enhanced when ThinkAbout is used.	1	2	3	4	5
13. The development of new ThinkAbout programs at other grade levels would be a waste of time.	1	2	3	4	5

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SECTION C: ATTITUDES TOWARD THINKABOUT (continued)

	Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree
14. ThinkAbout programs are uniformly high in quality.	1	2	3	4	5
15. Material is clearly presented in ThinkAbout programs.					
16. ThinkAbout reinforces material taught in other lessons.	1	2	3	4	5
17. ThinkAbout motivates students' interest in a subject(s).	1	2	3	4	5
18. ThinkAbout programs arouse discussion in my class(es).	1	2	3	4	5
19. Use of ThinkAbout facilitates individualization of instruction.	1	2	3	4	5
20. ThinkAbout programs present material not commonly available in existing curriculum material.	1	2	3	4	5
21. ThinkAbout presents material not covered by other instructional television programs.	1	2	3	4	5
22. ThinkAbout programs help students develop problem solving skills.	1	2	3	4	5
23. ThinkAbout programs help students to express themselves effectively.	1	2	3	4	5
24. ThinkAbout programs help students manage their own learning.	1	2	3	4	5
25. ThinkAbout programs help students to reason systematically.	1	2	3	4	5
26. ThinkAbout programs help students to think flexibly.	1	2	3	4	5
27. ThinkAbout extends the range of experiences available to students	1	2	3	4	5
28. ThinkAbout programs have relevance for day to day living experiences of students.	1	2	3	4	5
29. Situations depicted in ThinkAbout programs are realistic.	1	2	3	4	5
30. My students are interested in ThinkAbout programs.	1	2	3	4	5
31. My students feel that ThinkAbout programs are usually realistic.	1	2	3	4	5
32. My students can identify with characters in ThinkAbout programs.	1	2	3	4	5
33. My students bring up ideas from ThinkAbout programs when studying other subjects.	1	2	3	4	5
34. My students would like to use ThinkAbout in class again next year.	1	2	3	4	5
35. Reaction of my students to ThinkAbout is highly favorable.	1	2	3	4	5
36. My students are bored with the ThinkAbout series.	1	2	3	4	5
37. The ThinkAbout Teacher's Guide is a useful resource.	1	2	3	4	5

SECTION D: COMMENTS ON THINKABOUT

38. What in your opinion are the two major strengths of ThinkAbout.

1 _____

2 _____

39. What in your opinion are the two major weaknesses of ThinkAbout?

1 _____

2 _____

40. What suggestions do you have for improvement of ThinkAbout?

_____

_____

_____

_____

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SECTION E: THINKABOUT VIEWING RECORD

Which of the following ThinkAbout programs have been used in your classroom(s) from the time you started? Please circle response option 1, 2, or 3. Also, please circle the name of the last program you watched with your class.

CLUSTER 1: FINDING ALTERNATIVES

1. Why Bother? 1 No 2 Yes 3 Not Sure
2. Brainstorming 1 No 2 Yes 3 Not Sure
3. Blockbusting 1 No 2 Yes 3 Not Sure

TIP PROGRAM

4. You Can Remember! 1 No 2 Yes 3 Not Sure

CLUSTER 2: ESTIMATING AND APPROXIMATING

5. Estimating 1 No 2 Yes 3 Not Sure
6. Approximating 1 No 2 Yes 3 Not Sure
7. Using Estimating And Approximating 1 No 2 Yes 3 Not Sure

TIP PROGRAM

8. Find Your Guide 1 No 2 Yes 3 Not Sure

CLUSTER 3: GIVING AND GETTING MEANING

9. What's The Meaning? 1 No 2 Yes 3 Not Sure
10. Meaning Is More Than Words 1 No 2 Yes 3 Not Sure
11. Remember The Audience! 1 No 2 Yes 3 Not Sure
12. But, What Does It Mean? 1 No 2 Yes 3 Not Sure
13. The Bigger Picture 1 No 2 Yes 3 Not Sure
14. Where Are You Coming From? 1 No 2 Yes 3 Not Sure

CHALLENGE PROGRAM

15. Make A Present For the Future 1 No 2 Yes 3 Not Sure

CLUSTER 4: COLLECTING INFORMATION

16. What Do I Know? 1 No 2 Yes 3 Not Sure
17. Where Should I Go? 1 No 2 Yes 3 Not Sure
18. What Should I Do? 1 No 2 Yes 3 Not Sure

TIP PROGRAM

19. Ways To Remember 1 No 2 Yes 3 Not Sure

CLUSTER 5: CLASSIFYING

20. Classifying Objects 1 No 2 Yes 3 Not Sure
21 Classifying Information 1 No 2 Yes 3 Not Sure
22. Stereotyping People 1 No 2 Yes 3 Not Sure

TIP PROGRAM

23. There Are Many Ways To Go 1 No 2 Yes 3 Not Sure

CLUSTER 6: FINDING PATTERNS

24. People Patterns 1 No 2 Yes 3 Not Sure
25. Communication Patterns 1 No 2 Yes 3 Not Sure
26. Cultural Patterns 1 No 2 Yes 3 Not Sure
27. Nature's Patterns 1 No 2 Yes 3 Not Sure

CHALLENGE PROGRAM

28. Search For The Unknown 1 No 2 Yes 3 Not Sure

CLUSTER 7: GENERALIZING

29. Drawing Conclusions 1 No 2 Yes 3 Not Sure
30. Checking Conclusions 1 No 2 Yes 3 Not Sure

TIP PROGRAM

31. Practice For Success 1 No 2 Yes 3 Not Sure

CLUSTER 8: SYNTHESIZING AND SCHEDULING

32. One Step At A Time 1 No 2 Yes 3 Not Sure
33. Plan Ahead 1 No 2 Yes 3 Not Sure

TIP PROGRAM

34. Calm Your Jitters 1 No 2 Yes 3 Not Sure

CLUSTER 9: USING CRITERIA

35. What Are They? 1 No 2 Yes 3 Not Sure
36. Where Do You Find Them? 1 No 2 Yes 3 Not Sure
37. How Do You Change Them? 1 No 2 Yes 3 Not Sure

CHALLENGE PROGRAM

38. Design A Language 1 No 2 Yes 3 Not Sure

CLUSTER 10: REshAPING INFORMATION

39. Symbols 1 No 2 Yes 3 Not Sure
40. More Than You Think 1 No 2 Yes 3 Not Sure
41. Summarizing 1 No 2 Yes 3 Not Sure
42. Maps and Models 1 No 2 Yes 3 Not Sure

TIP PROGRAM

43. Get Ahead With Goals 1 No 2 Yes 3 Not Sure

CLUSTER 11: JUDGING INFORMATION

44. Should I Believe It? 1 No 2 Yes 3 Not Sure
45. What's Important? 1 No 2 Yes 3 Not Sure
46. What's Enough? 1 No 2 Yes 3 Not Sure
47. Point of View 1 No 2 Yes 3 Not Sure
48. Persuasive Techniques 1 No 2 Yes 3 Not Sure

TIP PROGRAM

49. Make A Deal With Yourself 1 No 2 Yes 3 Not Sure

CLUSTER 12: COMMUNICATING EFFECTIVELY

50. Styles Of Communication 1 No 2 Yes 3 Not Sure
51. Planning A Presentation 1 No 2 Yes 3 Not Sure
52. Making a Presentation 1 No 2 Yes 3 Not Sure
53. Making Your Point 1 No 2 Yes 3 Not Sure
54. Making It Come Alive 1 No 2 Yes 3 Not Sure

CHALLENGE PROGRAM

55. Make Something New 1 No 2 Yes 3 Not Sure

CLUSTER 13: SOLVING PROBLEMS

56. One Thing Leads To Another 1 No 2 Yes 3 Not Sure
57. A Matter Of Time 1 No 2 Yes 3 Not Sure
58. There's Always A Risk 1 No 2 Yes 3 Not Sure
59 Hanging In There 1 No 2 Yes 3 Not Sure

CHALLENGE PROGRAM

60. Plan A City Of The Future 1 No 2 Yes 3 Not Sure

61. Is your class viewing the ThinkAbout series in the same order as is presented in this list? 1 No 2 Yes

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SECTION F: IMPACT OF THINKABOUT

We are interested in your perception of the degree to which students have learned certain skills from the ThinkAbout series this year. Please indicate how well you believe your students have learned each of the following skills by circling their degree of proficiency for each skill acquired as a result of using ThinkAbout.

	Very Low				Very High
42. Find alternatives when solving problems.	1	2	3	4	5
43. Understand the importance of having alternatives.	1	2	3	4	5
44. In using the skills of estimating and approximating, both individually and together.	1	2	3	4	5
45. In deciding when to estimate and when to approximate.	1	2	3	4	5
46. Understand that giving and getting meaning requires attention to how senders and receivers use and interpret information.	1	2	3	4	5
47. Determine information needs.	1	2	3	4	5
48. Select appropriate sources of information.	1	2	3	4	5
49. Use various strategies to collect information.	1	2	3	4	5
50. Classify objects and information on the basis of similar characteristics.	1	2	3	4	5
51. Realize that stereotyping may result from inflexibly classifying people.	1	2	3	4	5
52. Recognize commonly occurring patterns	1	2	3	4	5
53. Understand that patterns can be useful in solving problems.	1	2	3	4	5
54. Draw conclusions based on evidence.	1	2	3	4	5
55. Avoid acting before checking their conclusions.	1	2	3	4	5
56. Sequence ideas or activities.	1	2	3	4	5
57. Plan a schedule.	1	2	3	4	5
58. See the importance of using criteria when making decisions or judgments.	1	2	3	4	5
59. Find appropriate criteria.	1	2	3	4	5
60. Reassess criteria when necessary.	1	2	3	4	5
61. Put information into forms that are useful for their purposes.	1	2	3	4	5
62. Change the form of information when a problem requires it.	1	2	3	4	5
63. Get more meaning from a fixed amount of information.	1	2	3	4	5
64. Find reliable information sources.	1	2	3	4	5
65. Discriminate between important and unimportant information.	1	2	3	4	5
66. Determine how much information is enough for a purpose.	1	2	3	4	5
67. Recognize common techniques for persuasion.	1	2	3	4	5
68. Learn about someone else's viewpoint.	1	2	3	4	5
69. Make more effective formal and informal presentations.	1	2	3	4	5
70. Use language more flexibly.	1	2	3	4	5
71. Decide how much time to give to thinking about (or trying to solve) a problem.	1	2	3	4	5
72. Realize that risk-taking is part of problem-solving, and that one must decide upon how much risk one wants to accept when preparing a plan to solve a problem.	1	2	3	4	5
73. Accept failures in problem-solving, learn from them, and persist.	1	2	3	4	5

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SECTION 6: TEACHER ATTITUDE INVENTORY

INSTRUCTIONS: The following pairs of statements have been chosen to illustrate some real questions about the teaching role. The purpose of the inventory is to obtain a clearer picture of the attitudes and feelings teachers have regarding these controversial issues. Your responses on these items will be very important in helping to explain test scores of all the students involved in the testing study who have been exposed to ThinkAbout.

Please consider the two statements given beside each number. Ask yourself, "Where do I generally stand regarding these contrasting positions in relationship to teaching my grade level?" Then, mark one "X" on the continuum indicating how you most often would respond, though exceptions often occur.

A mark in Column "1" represents strong agreement with the first statement.

A mark in Column "2" indicates mild agreement with the first statement.

A mark in the center column will indicate no preference, or that both statements seem equally valid to you.

A mark in Columns "4" or "5" shows mild or strong agreement with the second statement.

	1	2	3	4	5	
74. Schools are too structured these days.	___	___	___	___	___	A major problem in today's schools is a lack of well-defined structure.
75. Most of my energy at this grade level is spent trying to retain some control and maintain order.	___	___	___	___	___	Most of my energy is spent trying to find ways to make the curriculum meaningful to individual students.
76. Teachers need many opportunities to increase their skills and knowledge of new techniques by participating in inservice workshops.	___	___	___	___	___	Inservice workshops are not necessary; teaching experience and extension classes help the teachers more.
77. The teacher's prime responsibility to the child is to teach him how to fit into his society and meet its expectations.	___	___	___	___	___	The teacher's prime responsibility is to help release the child to feel free to develop himself toward an increasing sense of self-fulfillment as an individual, relatively independent of society's expectations.
78. Teachers should not become too personally and emotionally involved with individuals in the class.	___	___	___	___	___	A teacher must be a special close friend before he can help the student realize his fullest potential.
79. Teachers should be acknowledged for being innovative and opportunity provided for them to share their ideas with other teachers.	___	___	___	___	___	No special recognition should be given teachers for being "innovative" as it fosters a competitive spirit and exaggerates the value of innovation.
80. Some children cannot be motivated because of other environmental influences.	___	___	___	___	___	There is no child who cannot be motivated to learn.
81. The teaching style (methodology) and curriculum should be consistent with a school and relatively consistent within a district or a nation.	___	___	___	___	___	Every teacher should be free to modify the curriculum or implement any method that helps her accomplish district or nationally defined objectives for the grade.
82. Some form of individualized instruction is generally more effective than group instruction for my grade level.	___	___	___	___	___	Group instruction is still the most practical and effective method of teaching for my grade level.
83. Faculty meetings should expose teachers to new ideas, material and approaches; memos can communicate technical-clerical information.	___	___	___	___	___	Faculty meetings should be very brief and confined to essential "business."
84. Children cannot learn well in a noisy room full of movement.	___	___	___	___	___	Children should be allowed to talk and to leave their seats or the room freely any time to accomplish work.
85. A teacher should be free to test any idea of a new technique in teaching.	___	___	___	___	___	Experimentation should occur only under the close supervision of administrative staff.
86. A teacher can significantly influence the attitudes and values of children even from a "culturally deprived" home and social environment	___	___	___	___	___	A teacher can do very little to motivate children from a "culturally deprived" home and social environment.
87. Most children in the grade that I teach are capable of increasing responsibility for self-evaluation and self-discipline as individuals and as a group.	___	___	___	___	___	Pupils cannot be expected to assume responsibility for self-discipline and evaluation before the secondary level; until then the teacher must assume most responsibility for discipline and evaluation.

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SECTION G: TEACHER ATTITUDE INVENTORY (continued)

A mark in Column "1" represents strong agreement with the first statement.

A mark in Column "2" indicates mild agreement with the first statement.

A mark in the center column will indicate no preference, or that both statements seem equally valid to you.

A mark in Columns "4" or "5" shows mild or strong agreement with the second statement.

	1	2	3	4	5	
88. There is too much experimentation in our schools and too little respect for traditional approaches.	___	___	___	___	___	Teachers must be willing to experiment with new approaches because our schools are in need of many changes before they will successfully do their job.
89. Individual pupil conferences with all students are very seldom possible in classes of 25 or more.	___	___	___	___	___	A teacher can and should make time for frequent conferences with individual pupils on personal academic matters.
90. Teaching staffs should be more involved in the development and evaluation of their programs.	___	___	___	___	___	Development and evaluation of programs can best be carried out by administrative staffs.
91. Group discussions in class are usually a waste of time.	___	___	___	___	___	Group dialogue and exploration of ideas are useful educational techniques.
92. A teacher should employ any approach or technique that will contribute toward the development of the potential for uniqueness, creativity, and individuality in each child.	___	___	___	___	___	The teacher is most effective when he or she confines her or his methods to standard ones such as these suggested in curriculum guides which are designed to be suitable to most children.
93. Teachers are not intended to be psychologists and therefore should confine their efforts to teaching subject matter and academic skills.	___	___	___	___	___	Teachers must apply the principles and theories of social psychology and child development to most effectively provide for learning and socio-emotional needs of each child.
94. Students should be encouraged to become increasingly involved in planning and evaluating.	___	___	___	___	___	Students may be involved only to a very limited extent regarding planning and evaluating; the final decisions must be those of the teacher.
95. Too much flexibility and pupil planning in a classroom creates feelings of insecurity and confusion.	___	___	___	___	___	Flexibility and spontaneity in a classroom are vital because such conditions foster creativity and enthusiasm.
96. It is most effective for a teacher to gain the respect of his pupils as a close personal friend.	___	___	___	___	___	It is important for a teacher to demand the respect of his pupils by maintaining a proper amount of distance.
97. Teachers should help each other evaluate approaches, identify problems or weaknesses and design methods of correcting the problems.	___	___	___	___	___	Evaluation should be a personal matter involving including only the teacher and principal.

THANK YOU VERY MUCH FOR YOUR TIME, COOPERATION AND INSIGHTS

WESTERN MICHIGAN UNIVERSITY

COLLEGE OF EDUCATION
The Evaluation Center

KALAMAZOO, MICHIGAN
49008

MEMORANDUM

TO: Test Administrators

FROM: Kimball Kleist, AIT Project Staff KK

DATE: March 30, 1980

RE: Test Administration

Please circle your responses to these questions and return this slip with testing materials. Thank you!

1. Were the instructions in the Test Administration Manual adequate? YES NO

2. Did you have any problems dividing the class into groups? YES NO

3. Were you able to administer the tests in the order outlined in the Instructions for Test Administration? YES NO

4. Any comments or problems related to the April testing period? _____

_____

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1. Were the instructions in the Test Administration Manual adequate? YES NO

2. Did you have any problems dividing the class into groups? YES NO

3. Was one half of the classroom given CTBS subtests 2, 7 and 10 and the other half given subtests 5, 8 and 9? YES NO

4. Were you able to administer the tests in the order outlined in the Instructions for Test Administration? YES NO

5. Did each student complete all the required tests in one day or two days? 1 day 2 days

6. Any suggestions for the upcoming testing periods?

_____

_____

_____

_____

APPENDIX E

SURVEY QUESTIONNAIRES, COVER LETTERS, AND FOLLOW-UP LETTERS

WESTERN MICHIGAN UNIVERSITY

COLLEGE OF EDUCATION
The Evaluation Center

KALAMAZOO, MICHIGAN
49008

November 21, 1979

Dear Teacher:

Your state has provided us with a list of names which indicates that you are a likely user of the TV series ThinkAbout. This is a new instructional television series intended for fifth and sixth grade students, introduced during the 1979-80 academic year. Whether you are a user, or non-user of the TV series, we are interested in finding out your views and opinions regarding instructional television.

This study has been approved by The Agency for Instructional Television, which produced the series. The consortium membership for this series includes thirty-six states in the U.S. and five provinces in Canada. Your State Department of Education is one of the consortium members. The Evaluation Center, Western Michigan University at Kalamazoo, Michigan, is conducting this research about ThinkAbout and instructional television.

You are one of the first if you are using this new program series. Your opinions about the series and your reasons for the use or non-use of the series in your classroom are crucial to us. Your views on this topic are also likely to affect future efforts in production of similar series and will affect planning for use of instructional television in classrooms. This is the first of four scheduled questionnaires being sent to people like yourself. Some of you will also receive one or more questionnaires later, in January, March or May.

Please indicate your honest opinions in responding to these questions. Your responses are confidential and no names or personal identification will be used in the report. Names are requested only to help us draw subsequent repeat samples.

Will you please take approximately ten minutes or so and respond to these questions? Only you can provide us with the answers. Please fill it in and mail it to us by December 8, 1979. A self-addressed, stamped envelope is enclosed for your convenience.

If you should have any questions about this study, please contact me at the address indicated above. My telephone number is (616) 383-8168.

Thank you.

Yours sincerely,

Subhash Sonnad

Subhash Sonnad
Survey Director

SS/kw

WESTERN MICHIGAN UNIVERSITY

COLLEGE OF EDUCATION
The Evaluation Center

KALAMAZOO, MICHIGAN
49008

November 29, 1979

Dear Colleague

Your state has provided us with your name as a contact person for the ThinkAbout Survey Research study. ThinkAbout is a new instructional television series introduced during the 1979-80 academic year. It is intended for fifth and sixth grade students.

This study has been approved by The Agency for Instructional Television, which produced the series. The consortium membership for this series includes thirty-six states in the U.S. and five provinces in Canada. Your State Department of Education is one of the consortium members. The Evaluation Center, Western Michigan University at Kalamazoo, Michigan, is conducting this research about ThinkAbout and instructional television.

We were informed that you would be the person who would most likely know which fifth and sixth grade teachers in your school are using ThinkAbout. We need to know the names of the teachers in order to conduct this study. We would very much appreciate it if you could provide us with the names of teachers using ThinkAbout. You can use the sheet attached to this letter or any other form you wish and mail it to us by December 8, 1979. A self-addressed, stamped envelope is enclosed for your convenience.

Please forward the enclosed questionnaire to one of the teachers using ThinkAbout. Please identify the person with an asterisk after his or her name on your list. If none of the teachers in your school are using ThinkAbout, please give the questionnaire to someone who may have an interest in the series (those teachers who have attended workshops on ThinkAbout or requested Preliminary Teachers Guides on ThinkAbout). The questionnaire is very brief. On the average it takes only five minutes to fill it in.

Responses are confidential and no names or personal identification will be used in the report. Names are requested only to help us draw subsequent repeat samples in January. The other envelope contains the questionnaire and a cover letter intended for the responding teacher.

If you should have any questions about this study, please contact me at the address indicated above. My telephone number is (616) 383-8166.

Thank you very much.

Yours Sincerely,

Subhash Sonnad

Subhash Sonnad
Survey Director

SS/cm
Enclosures

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SURVEY I

USE OF INSTRUCTIONAL TELEVISION AND THE THINKABOUT SERIES

Name _____

Please circle or mark the boxes or fill in your responses.

Section A: USE OF INSTRUCTIONAL TELEVISION

1. How would you describe the location of your school? 1 Urban 2 Suburban 3 Small town 4 Rural 5 Other

2. Which one best describes the setting in which you teach? (Check one)
1 Self-contained classroom
2 Non-traditional setting
3 Departmentalized—by subject (specify) _____
4 Other (specify) _____

3. How many years of full-time teaching experience do you have? ___ Years

4. Circle all grades which you teach (If ungraded, circle the nearest grade equivalent) Pre K—K—1—2—3—4—5—6—7—8—9—10—11—12

5. Is TV equipment available (either for direct on-air or videotape viewing) for you to use with any of your classes? 1 No 2 Yes 3 Not sure
If NO, go to page 2, question number 27

6. How many different instructional television (ITV) series have you used in your classroom(s) during each of the following periods?
a. September 1978—June 1979? _____ series
b. September 1979—December 1979? _____ series
(Please write 0 or none if you did not use any)
If the answer is 0 or none to both questions 6a and 6b, please go to page 2, question number 27

7. On the average, how much time per week do all your classes spend viewing ITV? ___ Hours ___ Minutes

8a. Have you ever had training on the use of a specific ITV series or on the use of ITV in general in the last 3 years? 1 No 2 Yes
If NO, go to question number 9a

8b. If yes, what type(s) of training have you had? (Check all that apply) 1 Workshops 2 College Courses 3 Other (specify) _____

9a. Is ThinkAbout being used in your school this year? 1 No 2 Yes 3 Not sure

9b. Have you seen any of the ThinkAbout programs? 1 No 2 Yes

9c. Is ThinkAbout available to you to use with your classes? 1 No 2 Yes 3 Not sure

10a. Did you receive any promotional or teaching material on ThinkAbout? 1 No 2 Yes
If NO, go to question number 11a

10b. If yes, did the material give you a good idea about the ThinkAbout series? 1 No 2 Yes

11a. Did you attend an orientation meeting on ThinkAbout? 1 No 2 Yes

11b. Did you attend a workshop on ThinkAbout? 1 No 2 Yes
If NO, go to question number 12a

11c. If yes, how long was the workshop on ThinkAbout? ___ Hours ___ Minutes

11d. What is your opinion of the workshop? 1 Not useful 2 Not sure 3 Useful

12. Which organization or type of organization was in charge of the workshop? _____

Section B: USE OF THINKABOUT

13a. Are you currently using the ThinkAbout series in your classroom? 1 No 2 Yes
If NO, go to page 2, question number 23

13b. If yes, circle the grade(s) in which you use ThinkAbout (If ungraded, circle the nearest grade equivalent) Pre K—K—1—2—3—4—5—6—7—8—9—10—11—12

14. Is ThinkAbout broadcast to your classroom or do you use videotape/film/cassette format? 1 Broadcast 2 Videotape/film/Cassette format 3 Both 4 Other

15. How would you rate the availability of television viewing equipment for your classroom? 1 Poor 2 Mixed 3 Good

16. How often do you experience technical difficulties viewing ThinkAbout? 1 Frequently 2 Sometimes 3 Rarely

17. How many of your classes use ThinkAbout? One Two Three

18. What is the total number of students you have using ThinkAbout? _____ Students

19. When did you begin using the series? ___ Month ___ Day ___ Year

20. How much time do you spend each week on ThinkAbout activities (viewing time, in-class assignments, and discussions before and after program viewing)? ___ Hours ___ Minutes

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21. What slots of the day are you scheduled to show ThinkAbout to your classes? (Please write in the time when each program begins)

	M	Tu	W	Th	F
Morning					
Afternoon					

22. Are the programs actually broadcast: a) on the scheduled days? 1 Rarely 2 Usually 3 Always
b) at the scheduled times? 1 Rarely 2 Usually 3 Always
c) in the scheduled order or sequence? 1 Rarely 2 Usually 3 Always

23. Would you prefer that ThinkAbout be shown in your classes: 1 Less frequently 2 With same frequency 3 More frequently

24. On the average, how much time per week do all your classes spend viewing ITV excluding ThinkAbout? ___ Hours ___ Minutes

25. Is ThinkAbout integrated as a part of the established curriculum or is it a separate subject matter in itself? 1 Part of an established curriculum. If "1", please specify the subject area(s) _____
2 A separate subject matter in itself

Section C: DECISION AND SUPPORT FOR USE OF THINKABOUT

26. There are a number of different responses to the introduction of a new ITV series. *Please indicate* how each of the following groups responded to ThinkAbout. (Circle one of the six possible responses for each group)

	Strongly Encourage Use	Encourage Use But Leave to Discretion of Individual Teacher	Neither Encourage or Discourage Use	Discourage Use But Leave to Discretion of Individual Teacher	Strongly Discourage Use	Don't Know
State Department of Education	1	2	3	4	5	6
Central Administration	1	2	3	4	5	6
Building Principal	1	2	3	4	5	6
Instructional TV Representative	1	2	3	4	5	6
Parents	1	2	3	4	5	6
School Board	1	2	3	4	5	6
Other Teachers	1	2	3	4	5	6
Media Specialists	1	2	3	4	5	6
Students	1	2	3	4	5	6
Other (specify) _____	1	2	3	4	5	6

27. Who was most influential in the decision to adopt ThinkAbout in your classes? (Circle only one response.) 1 State 2 Central Administration 3 Building Principal 4 Media Specialist 5 You 6 Other Teachers 7 ITV Representative 8 Don't Know 9 Combination of above or other (specify) _____

Section D: PREPARATION FOR THINKABOUT

28. Did you receive a Preliminary Teacher's Guide? 1 No 2 Yes

29. Did you have adequate time to prepare for the ThinkAbout series? 1 No 2 Not sure 3 Yes

Section E: VIEWS REGARDING THINKABOUT

30. Do you plan to use the entire ThinkAbout series or some segments of it? 1 Entire Series 2 Most of the Series 3 Selected Programs 4 Selected Clusters

31. What is the general reaction of your students to the series so far? 1 Unfavorable 2 Mixed 3 Favorable

What is your general reaction to the series so far? 1 Unfavorable 2 Mixed 3 Favorable
(Please go to question 37.)

Area F: NON USERS

32. Why are you not using ThinkAbout in your classes? _____

33. When was this decision made? ___ month, 1979

34. Did you use the ThinkAbout series and then discontinue it? 1 No 2 Yes

35. If yes, please indicate why. _____

37. Thank you very much for taking the time to fill out the questionnaire. We would appreciate any comments you might have regarding ThinkAbout or other instructional television series. _____

111

PLEASE RETURN YOUR
QUESTIONNAIRES.....

December 26, 1979

Dear Teacher:

A few weeks ago we mailed you a copy of a questionnaire on the use of instructional television series and ThinkAbout in your classroom. We hope you received it.

You are probably very busy during this time of the year. Maybe you misplaced the questionnaire temporarily, or possibly a student of yours borrowed it to make a paper plane to see how questionnaires fly. For some reason or the other, we have not yet received your questionnaire but are still faithfully awaiting it.

As you know, only you can give us information regarding use of instructional television series and if you are using ThinkAbout which was introduced this year. Will you please take about five minutes of your time to complete the questionnaire and mail it back to us by January 14, 1980. We are enclosing another copy of the questionnaire and a self-addressed, stamped envelope for your convenience.

Please ignore this letter if you have already mailed us your questionnaire.

Wishing you a Happy New Year.

Yours sincerely,

Subhash Sonnad

Subhash Sonnad

.....BEFORE WE SEND
SOMEONE AFTER THEM

WESTERN MICHIGAN UNIVERSITY

COLLEGE OF EDUCATION
The Evaluation Center

KALAMAZOO, MICHIGAN
49008

January 8, 1980

Dear Colleague

A few weeks ago we contacted you about the ThinkAbout Survey Research study. ThinkAbout is a new instructional television series introduced during the 1979-80 academic year. It is intended for fifth and sixth grade students.

As you know, this study has been approved by The Agency for Instructional Television, which produced the series. The consortium membership for this series includes thirty-six states in the U.S. and five provinces in Canada. Your State Department of Education is one of the consortium members. The Evaluation Center, Western Michigan University at Kalamazoo, Michigan, is conducting this research about ThinkAbout and instructional television.

Your state has informed us that you would be the person who would most likely know which fifth and sixth grade teachers in your school are using ThinkAbout. We need to know the names of the teachers in order to conduct this study. We realize that you are probably very busy during this time of year.

As you know, you can help us considerably by providing us with the names of teachers using ThinkAbout. We would very much appreciate it if you could send us these names on the sheet attached to this letter or on any other form you wish and mail it to us by January 21, 1980. A self-addressed,stamped envelope is enclosed for your convenience.

Responses are confidential and no names or personal identification will be used in the report. Names are requested only to help us draw subsequent repeat samples at a later date.

If you should have any questions about this study, please contact me at the adress indicated above. My telephone number is (616) 383-8166.

Thank you very much for your time and consideration.

Yours Sincerely,

Subhash Sonnad
Survey Director

SS/cm
Enclosures

S1

WESTERN MICHIGAN UNIVERSITY

The Evaluation Center

KALAMAZOO, MICHIGAN
49008

January 31, 1980

Dear Colleague:

Will you help us?

We are conducting a nationwide survey of classroom teachers using the instructional television series "ThinkAbout". Your state has provided us with your name as a contact person for the ThinkAbout survey research study. ThinkAbout is a new instructional television series introduced during the 1979-80 academic year. It is intended for fifth and sixth grade students.

We were informed that you would be the person who would most likely know which 5th and 6th grade teachers in your school are using ThinkAbout. You can help us considerably in conducting this research study on Think-About by providing us with the names of teachers using ThinkAbout. We would very much appreciate it if you could provide us with the names of teachers using ThinkAbout by listing them on the form attached to this letter. If you don't know any teachers using ThinkAbout, please let us know by simply returning the blank form attached to this letter. We would very much appreciate it if you could send us these names by February 24, 1980. A self-addressed, stamped envelope is enclosed for your convenience.

Could you also please forward, at your earliest convenience, the enclosed cover letter and questionnaire to one of the teachers from your list of those who are using ThinkAbout? You may assure him or her that the questionnaire is really brief and on the average it will take less than ten minutes to be completed. Please identify this teacher with an asterisk by his or her name on the attached form.

This study has been approved by The Agency for Instructional Television, which produced the series. The consortium membership for this series includes thirty-six states in the U.S. and five provinces in Canada. Your State Department of Education is one of the consortium members. The Evaluation Center, Western Michigan University at Kalamazoo, Michigan, is conducting this research about ThinkAbout and instructional television.

If you have any questions about this study, please contact me at the address indicated above. My telephone number is (616) 383-8166.

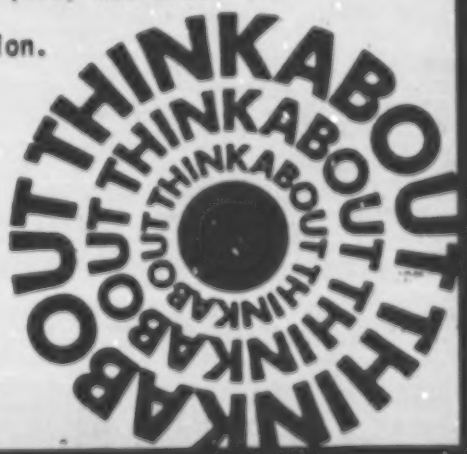
Thank you very much for your time and consideration.

Yours Sincerely,

Subhash R. Sonnad

Subhash R. Sonnad
Survey Director

SRS/cms
Enclosures



of Contact Person _____ No. _____

ing Address _____
Street City State Zip

S - Name of Teacher* Grade Mailing Address

identify the person to whom you have given the questionnaire by an asterisk before his or me. Thank you again.

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WESTERN MICHIGAN UNIVERSITY

The Evaluation Center

KALAMAZOO, MICHIGAN
49008

January 31, 1980

Dear Teacher:

Will you help us?
We are conducting a nationwide survey of classroom teachers using the instructional television series "ThinkAbout". Your state has provided us with a list of names which indicates that you are a likely user of this series.

Your views on this topic are likely to affect future efforts in planning and production of similar series of instructional television in classrooms. This is the second of four scheduled questionnaires being sent to people like yourself. Some of you may also receive one or more questionnaires later in March or May.

This study has been approved by The Agency for Instructional Television, which produced the series. The consortium membership for this series includes thirty-six states in the U.S. and five provinces in Canada. Your State Department of Education is one of the consortium members. The Evaluation Center, Western Michigan University at Kalamazoo, Michigan, is conducting this research about the ThinkAbout series.

Please indicate your honest opinions in responding to these questions. Your responses are confidential and no names or personal identification will be used in the reports. Names are requested only to help us draw subsequent repeat samples.

Will you please take approximately ten minutes or so and respond to the questionnaire? Only you can provide us with the answers. Please fill it in and mail it to us by February 22, 1980. A self-addressed, stamped envelope is enclosed for your convenience.

If you should have any questions about this study, please contact me at the address indicated above. My telephone number is (616) 383-8166.

Thank you.

Sincerely,

Subhash R Sonnad

Subhash R. Sonnad
Survey Director

WESTERN MICHIGAN UNIVERSITY

The Evaluation Center

KALAMAZOO, MICHIGAN
49008

February 1, 1980

Dear Teacher:

Will you help us?

We are conducting a nationwide survey of classroom teachers using the instructional television series "ThinkAbout". We are very interested in finding out the usage patterns and opinions about the series. As a user of this series, only you can provide us with this important information.

Your views on this topic are likely to influence future efforts in planning and production of similar series of instructional television in classrooms. This is the second of four scheduled questionnaires being sent to teachers like yourself. You may also receive one or more follow-up questionnaires later in March or May.

This study has been approved by The Agency for Instructional Television, which produced the series. The consortium membership for this series includes thirty-six states in the U.S. and five provinces in Canada. Your State Department of Education is one of the consortium members. The Evaluation Center, Western Michigan University at Kalamazoo, Michigan, is conducting this research about the ThinkAbout series.

Please indicate your honest opinions in responding to these questions. Your responses are confidential and no names or personal identification will be used in the reports. Names are requested only to help us draw subsequent repeat samples.

Will you please give us the few minutes that it takes to fill out and mail the questionnaire? Each reply is important to us. Please return your questionnaire by the end of the month. A self-addressed, stamped envelope is enclosed for your convenience.

If you should have any questions about this study, please contact me at the address indicated above. My telephone number is (616)383-8166.

Thank you.

Sincerely,

Subhash R. Sonnad

Subhash R. Sonnad
Survey Director

SRS/cms
Enclosures

WESTERN MICHIGAN UNIVERSITY

The Evaluation Center

KALAMAZOO, MICHIGAN
49008

February 4, 1980

Dear Friend of ThinkAbout:

Will you help us again?

We thank you very much for your prompt response to the questionnaire we mailed you during November. Your answers have been tabulated and have been most helpful to us in our study. This second questionnaire is a follow-up of the first questionnaire. Some teachers like yourself are receiving this as a second request for assistance. Others are receiving just this questionnaire as they did not receive the first one. Therefore, you may notice that some of the questions are similar to those you answered in the first questionnaire.

The reason we are requesting your help again is to further assess the use of the ThinkAbout series in your classroom over a period of time. We also need to determine if there are any changes in your usage, attitudes or opinions about the series. As a member of the first group of teachers who have ever used ThinkAbout in your classrooms over an extanded period of time, we feel your opinions are crucial to a better understanding of the series. As you know, responses are confidential and no names or personal identification will be used in the report. Names are requested only to help us draw subsequent repeat samples in March or May.

The questionnaire is brief. Please take a few minutes to complete it and return it to us. A self-addressed, stamped envelope is enclosed for your convenience.

If you should have any questions about this study, please contact me at the address indicated above. My telephone number is (616) 383-8166.

Thank you very much.

Sincerely,

Subhash R. Sonnad

Subhash R. Sonnad
Survey Director

SRS/cms
Enclosure

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SURVEY II

USE OF TELEVISION IN CLASSROOMS
EVALUATION CENTER, WESTERN MICHIGAN UNIVERSITY

No. _____

Name _____

Town _____ State _____

DIRECTIONS: Please circle the numbers or fill in your responses.

Section A: BACKGROUND INFORMATION

1. Have you responded to a prior questionnaire on ThinkAbout mailed by us? — 1 No 2 Not Sure 3 Yes

2. How would you describe the location of your school? — 1 Urban 2 Suburban 3 Small Town 4 Rural 5 Other

3. How many years of full-time teaching experience do you have including this year? — _____ years

4. Which one best describes the setting in which you teach? (check one)
   1 Self-contained classroom
   2 Non-traditional setting
   3 Departmental by subject (specify) _____
   4 Other (please specify) _____

5. Are you currently using ThinkAbout in your classroom? (If NO, go to Page 2, question 10) — 1 No 2 Yes

6. If yes, circle the grade(s) in which you use ThinkAbout. (If ungraded, please circle the nearest grade equivalent). — Pre K K 1 2 3 4 5 6 7 8 9 10 11 12

7. Do you view ThinkAbout on a public broadcast station or a videotape/file/cassette format or any other format? — 1 Public broadcast Station 2 Video tape/file/cassette format 3 Both 4 Other

   (If you have marked public broadcast station, please go to question 9)

8. If you are using the videotape/file/cassette format, do you get to view the program according to your own schedule? — 1 No 2 Yes 3 Not applicable—don't use videotape/file/cassette format

9. Do you have an option to select programs for your class(es)? — 1 No 2 Rarely 3 Occasionally 4 Always

10. If you marked the always category to the question above, please indicate on what basis you select the programs? — _____

11. Do you prefer to have access to ThinkAbout through a public broadcast station or a videotape/file/cassette format? — 1 Public broadcast station 2 Videotape/file/cassette format 3 Both

12. How would you rate the availability of television viewing equipment for your classroom? — 1 Poor 2 Medium (neither good nor poor) 3 Good

13. Where is the television viewing equipment located in your school? (please circle all that apply) — 1 Your own classroom 2 Nearby classroom 3 Media room 4 Other (please specify) _____

Section B: USE OF THINKABOUT

14. How many of your classes use ThinkAbout? — 1 2 3 4 5 6 7 8 9 10 11 12 or more

15. What is the total number of your students using ThinkAbout? — _____ Students

16. On the average, how much total time did you spend each week during the month of January on ThinkAbout programs including viewing time, in-class assignments and discussions before and after program viewing? — _____ Hour(s) _____ Minutes

17. On the average, how much total time did you spend each week during the month of January on instructional television programs including viewing time, in-class assignments, and discussions before and after program viewing <u>excluding</u> ThinkAbout programs? — _____ Hour(s) _____ Minutes

18. How many ThinkAbout programs have been used in your classroom(s) so far from the time you started using the series? (please answer questions 19a, 19b, and 19c if ThinkAbout is broadcast to your class(es), otherwise go to question 20a) — _____ Programs

19a. Approximately how many ThinkAbout programs have been broadcast so far on public broadcast stations in your school area? — _____ Programs

19b. Of the programs that have been broadcast so far this year, how many have you viewed in your class(es)? — 1 All 2 Most 3 Some 4 None

19c. Of the programs to be broadcast during the rest of the academic year, how many do you plan to use? — 1 All 2 Most 3 Some 4 None

20a. On the average, how many ThinkAbout programs are viewed by each of your classes which are using ThinkAbout this year? — 1 2 3 4 5 6 7 8 9

20b. Which choice would you prefer? — 1 Fewer programs per week
2 Same number of programs per week
3 More programs per week

21. What time of the day are you scheduled to view ThinkAbout? (please write in the time when the program starts.)

	M	T	W	Th	F
Time in morning					
Time of noon or afternoon					

22. Do you find the schedule above convenient? — 1 Very Inconvenient 2 Somewhat Inconvenient 3 Somewhat Convenient 4 Very Convenient

23. What is an optimum schedule for you at the present time? (please indicate the time when you would want programs to start or check one of the other two categories)

	M	T	W	Th	F
Time in the morning					
Time at noon or afternoon					
No Preference					
To Optimum Schedule Possible					

Section C: THINKABOUT AND OTHER CURRICULA

24. Is ThinkAbout integrated as a part of the established curriculum or is it a separate subject matter in itself? (please circle all that apply)

1 Part of an established curriculum:

A. Language Arts C. Study Skills
B. Mathematics D. Other (specify)_____

2 A separate subject matter in itself

25. Are you using ThinkAbout as a substitute or supplement to traditional curriculum material (e.g., text book)?

1 As an alternative or replacement 2 Supplement or Addition 3 Both 4 Neither

26. How well does ThinkAbout fit with the total curriculum for fifth graders in your school?

1 Very Adequately 2 Adequately 3 Poorly 4 Very Poorly 5 Not Applicable

27. How well does ThinkAbout fit with the total curriculum for sixth graders in your school?

1 Very Adequately 2 Adequately 3 Poorly 4 Very Poorly 5 Not Applicable

28. Please rate the skill areas with which ThinkAbout can be best integrated. (please use a scale ranging from 0-10: 0 being no possible integration and 10 being highest possible integration.)

Scale: ____ Language Arts Skills
____ Mathematics Skills
____ Study Skills
____ Other (please specify) _____

29. Have you developed your own materials or activities to supplement the programs?

1 No 2 In the process of developing them 3 Yes

30. Do you have to curtail any other activity/activities (instructional or non-instructional) to make time for ThinkAbout? (If NO, go to question 32)

1 No 2 Rarely 3 Frequently 4 Regularly

31. If yes, what activity/activities has/have to be curtailed?

_____

32. Under what circumstances would you discontinue using ThinkAbout?

_____

33. Do you have a copy of the Preliminary Teacher's Guide?

1 No 2 Yes

34. If yes, how did you get a copy?

_____

35. Do you have a copy of the new Teacher's Guide?

1 No 2 Yes

36. Approximately how many times last week did references to ThinkAbout come up in other subjects?

____ Times

37. Please identify some of your positive experiences with the ThinkAbout series.

_____

38. Please identify some of your negative experiences with the ThinkAbout series.

_____

(please go to question number 41)

39. Did you discontinue using the ThinkAbout programs or haven't you ever used the series?

1 Discontinued use of ThinkAbout 2 Haven't used the series

(If you have never used the series, please go to question number 41)

40. If you discontinued using the ThinkAbout program(s), please indicate why.

_____

41. Do you plan to use the ThinkAbout program(s) next year?

1 No 2 Not sure 3 Yes

42. Please indicate the reason for your answer to the question above.

_____

43. We would appreciate any other comments you may have.

_____

THANK YOU VERY MUCH FOR YOUR TIME, COOPERATION AND INSIGHTS

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PLEASE RETURN YOUR QUESTIONNAIRES .....

February 29, 1980

Dear Teacher:

A few weeks ago, we mailed you a copy of a questionnaire entitled: Use of ThinkAbout in Classrooms. We hope you had a chance to look it over. We have received many encouraging responses to our questionnaire, but we have missed hearing from you. You were a participant in the first questionnaire study, therefore, your responses are especially important to us in this four-part project.

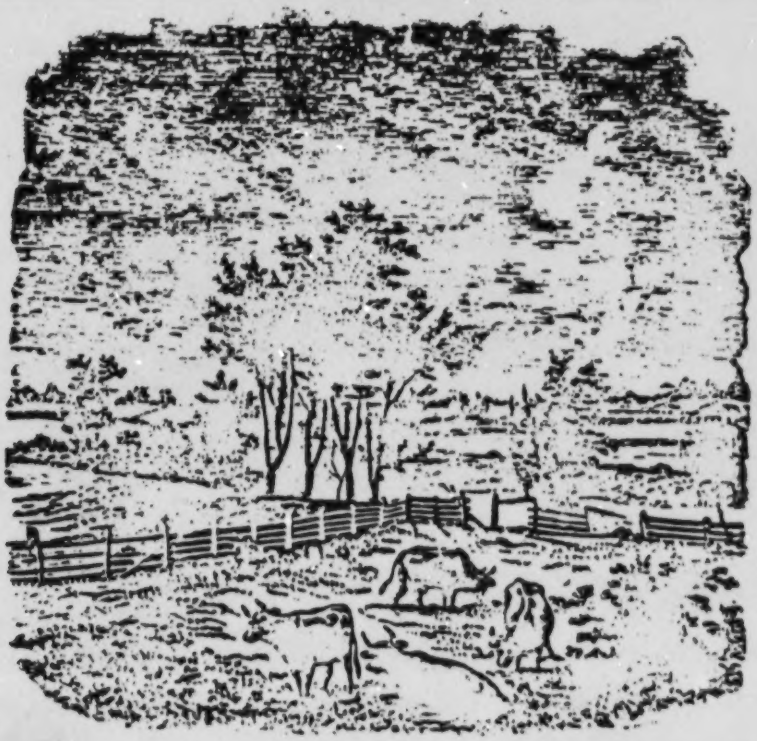
We are anxious to hear from you, so we are sending you another questionnaire and enclosing a self-addressed stamped envelope for your convenience. Will you please take ten minutes of your time to complete the questionnaire and mail it back to us by March 14, 1980.

Please ignore this request if you have already mailed us your questionnaire. We thank you for your cooperation.

Yours sincerely,

Subhash R. Sonnad

Subhash R. Sonnad
Survey Director



PLEASE RETURN YOUR LIST OF TEACHERS USING THINKABOUT

March 6, 1980

Dear Colleague:

A few weeks ago we sent you a letter requesting names of teachers who are using ThinkAbout in your school. We have received many encouraging responses to our recent request, but we missed hearing from you; your response is an important part of our study.

We are anxious to hear from you. We are sending you another form and enclosing a self-addressed, stamped envelope for your convenience. Will you please take ten minutes of your time to complete the list of teachers who are using ThinkAbout in your school and mail it back to us by March 20, 1980. If you don't know any ThinkAbout users, simply return the blank form to us so that we can use that information.

Please ignore this request if you have already mailed us your list. We thank you for your cooperation.

Yours sincerely,

Subhash R. Sonnad

Subhash R. Sonnad

PLEASE RETURN YOUR QUESTIONNAIRES .....

March 10, 1980

Dear Teacher:

A few weeks ago we requested a colleague of yours to forward you a copy of a questionnaire entitled: Use of ThinkAbout in Classrooms. We hope you had a chance to look it over. We have received many encouraging responses to our questionnaire, but we have missed hearing from you. We are still waiting for your response because it is important to us.

We are anxious to hear from you, so we are sending you another questionnaire and enclosing a self-addressed stamped envelope for your convenience. Will you please take ten minutes of your time to complete the questionnaire and mail it back to us by March 25, 1980.

Please ignore this request if you have already mailed us your questionnaire. We thank you for your cooperation.

Yours sincerely,

Subhash R. Sonnad

Subhash R. Sonnad
Survey Director

WESTERN MICHIGAN UNIVERSITY

COLLEGE OF EDUCATION
The Evaluation Center

KALAMAZOO, MICHIGAN
49008

March 24, 1980

Dear Teacher:

Will you help us?

We are conducting a nationwide survey of classroom teachers using the instructional television series ThinkAbout. Your state has provided us with a list of names which indicates that you are a likely user of this series.

This study has been approved by the Agency for Instructional Television, which produced the series. The consortium membership for this series includes thirty-six states in the U.S. and five provinces in Canada. Your State Department of Education is one of the consortium members. The Evaluation Center, Western Michigan University at Kalamazoo, Michigan, is conducting this research about the ThinkAbout series. This is the third of four scheduled questionnaires being mailed to teachers who may be using ThinkAbout.

Only your responses can provide us with the necessary information. As a member of the first group of teachers who have used ThinkAbout in their classrooms, your views are crucial for this research study. Please indicate your honest opinions in responding to these questions. Your responses are confidential and no names or personal identification will be used in the reports. Names are requested only to help us draw subsequent samples.

Will you please take approximately ten minutes or so and respond to the questionnaire? Please fill it in and mail it to us by April 9, 1980. A self-addressed, stamped envelope is enclosed for your convenience.

If you should have any questions about this study, please contact me at the address indicated above. My telephone number is (616) 383-8166.

Thank you.

Sincerely,

S. R. Sonnad

S. R. Sonnad
Survey Director

WESTERN MICHIGAN UNIVERSITY

COLLEGE OF EDUCATION
The Evaluation Center

KALAMAZOO, MICHIGAN
49008

March 24, 1980

Dear Friend of ThinkAbout:

Will you help us again?

We thank you very much for your prompt response to the questionnaire previously mailed to you. Your answers have been most helpful to us in our study. A capsule report containing the questionnaire results will be mailed to your state consortium representative by the Agency for Instructional Television. Because your participation is crucial to our research, we are asking you to fill out one more questionnaire, which is a follow-up of the first one you completed.

We are requesting your help again in order to further assess the use of the ThinkAbout series in your classroom over a period of time. We also need to determine if there have been any changes in your usage of the series, or in your attitudes or opinions about the series. As a member of the first group of teachers who have used ThinkAbout in their classrooms over an extended period of time, your opinions are essential for an accurate analysis of the series. As you know, responses are confidential and no names or personal identification will be used in the report. Names are requested only to help us draw subsequent samples.

The questionnaire is brief. Please take a few minutes to complete it and return it to us by April 9, 1980. A self-addressed, stamped envelope is enclosed for your convenience.

If you should have any questions about this study, please contact me at the address indicated above. My telephone number is (616) 383-8166.

Thank you very much.

Sincerely,

S. R. Sonnad

S. R. Sonnad
Survey Director

SURVEY III

ATTITUDES AND OPINIONS ABOUT THE THINKABOUT SERIES
EVALUATION CENTER, WESTERN MICHIGAN UNIVERSITY

No. _____

Name _____

Town _____ State _____

DIRECTIONS: Please circle the numbers associated with your responses or fill in your responses.

Section A: BACKGROUND INFORMATION

1. Have you responded to any of our earlier questionnaires on ThinkAbout? — 0 No 1 One 2 Two 3 Don't remember

2. How would you describe the location of your school? — 1 Urban 2 Suburban 3 Small Town 4 Rural 5 Other

3. How many years of full-time teaching experience do you have including this year? — _____ years

4. Are you currently using ThinkAbout in your classroom? (If NO, go to Page 2, question 12) — 1 No 2 Yes

5. If yes, circle the grade(s) in which you use ThinkAbout. (If ungraded, please circle the nearest grade equivalent). — PreK K 1 2 3 4 5 6 7 8 9 10 11 12

6. How many months including March have you been viewing ThinkAbout? — _____ months

7. How many of your classes use ThinkAbout? — _____ class(es)

8. What is the total number of your students using ThinkAbout? — _____ students

9. On the average, how much total time did you spend each week during the month of March on ThinkAbout programs INCLUDING viewing time, IN-CLASS assignments and discussions before and after program viewing? — _____ Hour(s) _____ Minutes

10. Do you view ThinkAbout on a public broadcast station or a videotape/film/cassette format or any other format? — 1 Public Broadcast Station 2 Video tape/film/cassette format 3 Both 4 Other

11. On the average, how many different ThinkAbout programs do you view per week in each of your classes which is using ThinkAbout — _____ different programs per week

12. On the average, are you now viewing fewer, same number or more ThinkAbout programs per week, than you did when you started? — 1 Fewer 2 Same number 3 More

13. Do you have a chance to make up a program if you miss your original schedule? — 1 No 2 Yes 3 Sometimes

14. Approximately how many total different ThinkAbout programs have you viewed so far? — _____ Programs

Section B: ATTITUDES AND OPINIONS

Listed below are some statements about various aspects of ThinkAbout. Please indicate your reaction to each by circling the appropriate number.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
15. When teachers use ThinkAbout they lose some of their importance in the classroom setting.	1	2	3	4	5
16. The personal relationship between student and teacher is enhanced when ThinkAbout is used.	1	2	3	4	5
17. ThinkAbout shows great possibilities for stimulating my creativity.	1	2	3	4	5
18. Children watch enough television at home; they don't need to watch more in school.	1	2	3	4	5
19. I would encourage other teachers to use ThinkAbout.	1	2	3	4	5
20. My students find the ThinkAbout programs interesting.	1	2	3	4	5
21. I find some of the ideas in ThinkAbout useful in my own activities.	1	2	3	4	5
22. ThinkAbout programs have relevance for day to day living experiences of my students.	1	2	3	4	5
23. I bring up ideas from ThinkAbout programs when teaching other subjects.	1	2	3	4	5
24. My students bring up ideas from ThinkAbout programs when studying other subjects.	1	2	3	4	5
25. ThinkAbout programs present complex ideas better than I can do in 15 minutes.	1	2	3	4	5
26. ThinkAbout programs present more ideas than I can deal with in one class period.	1	2	3	4	5
27. ThinkAbout programs arouse discussion in my class(es).	1	2	3	4	5
28. The ThinkAbout series is suitable for students below the 5th grade.	1	2	3	4	5
29. The ThinkAbout series is suitable for students above the 6th grade.	1	2	3	4	5
30. Material is clearly presented in ThinkAbout programs.	1	2	3	4	5
31. Material is usually presented step by step in the ThinkAbout programs.	1	2	3	4	5
32. Presentation of major ideas in ThinkAbout programs is distracted by attention to incidental details.	1	2	3	4	5
33. Characters depicted in ThinkAbout programs are similar to 5th and 6th graders.	1	2	3	4	5

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	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
36. ThinkAbout programs present material not commonly available in existing curriculum material.	1	2	3	4	5
38. Situations depicted in ThinkAbout programs are realistic.	1	2	3	4	5
39. My students can identify with characters in ThinkAbout programs.	1	2	3	4	5
37. My students are bored with the ThinkAbout series.	1	2	3	4	5
38. My students feel that ThinkAbout programs are usually realistic.	1	2	3	4	5
39. Most of my students participate in discussions of ThinkAbout programs.	1	2	3	4	5
40. My students feel ThinkAbout material is too hard to comprehend.	1	2	3	4	5
41. My students feel ThinkAbout programs talk down to them.	1	2	3	4	5
42. My students are interested in ThinkAbout programs.	1	2	3	4	5
43. My students feel the ThinkAbout series is dumb.	1	2	3	4	5
44. My students are generally more interested in the ThinkAbout series now than they were in the beginning of the series.	1	2	3	4	5
45. The reaction of my students to ThinkAbout is highly favorable.	1	2	3	4	5

Section C: TEACHERS GUIDE AND DISCUSSIONS ABOUT PROGRAMS

46. Is your class viewing the ThinkAbout series in the same order as it is presented in the Teacher's Guide? 1 No 2 Yes 3 Not sure

47. What is the average amount of time you spend with your class in discussions related to ThinkAbout program content immediately before viewing? _____ Minutes

48. What is the average amount of time you spend with your class in discussions related to ThinkAbout program content immediately after viewing? _____ Minutes

49. Do you have a copy of the Teacher's Guide? (If no, please go to question 54). 1 No 2 Yes

50. If yes, how would you rate the Teacher's Guide? 1 Excellent 2 Good 3 Mixture of good and poor 4 Poor 5 Very poor

51. Please indicate what can be done to improve the Teacher's Guide (Please go to question 54) _____

Section D: NON USERS OF THINKABOUT SERIES

52. Did you discontinue using the ThinkAbout programs? (If no, please go to question 57) 1 No, I have never used ThinkAbout 2 Yes, I discontinued use of ThinkAbout

53. If you discontinued using the ThinkAbout program(s), please indicate why. (Please go to question 57) _____

SECTION E: SUGGESTIONS AND COMMENTS

54. In your opinion what is a major strength of the ThinkAbout series? _____

55. In your opinion what is a major weakness of the ThinkAbout series? _____

56. What suggestions do you have for improvement of the ThinkAbout series? _____

57. Do you plan to use the ThinkAbout program(s) next year? 1 No 2 Not Sure 3 Yes

58. Please indicate the reason for your answer to the question above. _____

THANK YOU VERY MUCH FOR YOUR TIME, COOPERATION AND INSIGHTS

April 17, 1980

Dear Teacher:

A few weeks ago we mailed you a questionnaire regarding the use of instructional television series and ThinkAbout in your classroom. We hope you received it.

This time of year, when classroom activities are reaching culmination, is surely a busy time for you. Perhaps you have not had time to complete the questionnaire. However, we are very anxious to receive your response.

Only you, as one of the teachers using ThinkAbout in the classroom, can give us the information we are seeking in this research study. Will you please take ten minutes of your time to complete the questionnaire and mail it back to us by April 30. We are enclosing another questionnaire and a self-addressed, stamped envelope for your convenience.

Please ignore this letter if you have already mailed us your questionnaire. Thank you for your cooperation.

Yours sincerely,

Subhash R. Sonnad

Subhash R. Sonnad
Survey Director

April 17, 1980

Dear Teacher:

A few weeks ago we mailed you a questionnaire dealing with the use of the ThinkAbout series in your classroom. We have not yet received your response.

Because you are a member of the first group of teachers in the United States and Canada who have used ThinkAbout in their classrooms over an extended period of time, and since you have participated in one or more of our previous questionnaire studies, your responses are especially crucial to us.

We are anxious to hear from you. We are sending you another questionnaire and a stamped, self-addressed envelope for your convenience. Will you please take ten minutes to complete the questionnaire and mail it back to us by April 30.

Please ignore this request if you have already mailed us your questionnaire. We thank you for your cooperation.

Yours sincerely,

Subhash R. Sonnad

Subhash R. Sonnad
Survey Director

WESTERN MICHIGAN UNIVERSITY

COLLEGE OF EDUCATION
The Evaluation Center

KALAMAZOO, MICHIGAN
49008

May 7, 1980

Dear Teacher:

Will you help us?

We are conducting a nationwide survey of classroom teachers using the instructional television series ThinkAbout. Your state has provided us with a list of names which indicates that you are a likely user of this series.

This study has been approved by the Agency for Instructional Television which produced the series. The consortium membership includes thirty-six states in the United States and five provinces in Canada. Your State Department of Education is one of the consortium members. The Evaluation Center, Western Michigan University at Kalamazoo, Michigan, is conducting this research about the ThinkAbout series. This questionnaire is the final one of four questionnaires which have been mailed to teachers who may be using ThinkAbout in their classrooms. This is our only chance to secure input from you regarding your perceptions of the actual outcomes of the ThinkAbout series and to find out what additional teaching materials you would like with the series.

As a member of the first group of teachers who have used ThinkAbout over an extended period of time, your views are crucial for this research study. Only you can give us the information we need. Please indicate your honest opinions in responding to these questions. Any additional comments or suggestions you might have are welcome. Your responses are confidential and no names or personal identification will be used in the reports. Will you please take approximately ten minutes of your time and respond to the questionnaire? Please fill it in and mail it to us by May 19. If you have not used ThinkAbout in your class(es), just return the uncompleted questionnaire to us. A self-addressed, stamped envelope is enclosed for your convenience.

We are also interested in your students' opinions of ThinkAbout. We believe you will agree that it is worthwhile to obtain information about student opinions of ThinkAbout. For this reason we would appreciate it if you could give the two enclosed, single page, student questionnaires and envelopes to two of your students. We would like you to give the questionnaires to the 8th and 14th student on your class list. The student questionnaires will take approximately five minutes to complete. We have also enclosed two prestamped and self-addressed envelopes for use by the students. If, for any reason, you cannot give the questionnaire to your students, please return them to us, along with your completed questionnaire.

If you should have any questions about this study, please contact me at the address indicated above. My telephone number is (616) 383-8166.

Thank you.

Sincerely,

S. R. Sonnad

S. R. Sonnad
Survey Director

WESTERN MICHIGAN UNIVERSITY

COLLEGE OF EDUCATION
The Evaluation Center

KALAMAZOO, MICHIGAN
49008

May 7, 1980

Dear Friend of ThinkAbout:

Will you help us again?

Thank you for your prompt response to the questionnaire we mailed to you last time. Your answers have been very helpful to us. A capsule report containing the results of the first questionnaire study has been mailed to your state consortium representative by the Agency for Instructional Television. Subsequent reports will soon be ready.

This is our fourth and final questionnaire. This is our last chance to secure input from you regarding your perceptions of the actual outcome of the ThinkAbout series and to find out what additional teaching materials you would like with the series. Since you have been a continuing participant in this study, your responses are now especially important for the conclusion of our study.

This is the first year ThinkAbout has been available to teachers. You are a member of the first group of teachers to use ThinkAbout in their classrooms over an extended period of time. Therefore, your opinions are crucial to us if our analysis is to be an accurate reflection of teachers' perceptions of the ThinkAbout series. We welcome any additional comments or suggestions you might have.

We are also interested in your students' opinions of ThinkAbout. We believe you will agree that it is worthwhile to obtain information about student opinions of ThinkAbout. For this reason we would appreciate it if you could give the two enclosed 28 item student questionnaires and envelopes to two of your students. We would like you to give the questionnaires to the 8th and 14th student on your class list. If, for any reason, you cannot give the questionnaire to your students, please return them to us along with your completed questionnaire.

The student questionnaire will take approximately five minutes to complete. We have also enclosed two prestamped and self-addressed envelopes for use by the students.

As you know, all responses obtained in this study are confidential. No names or personal identification will be used in the report. Names are requested so that we can compare changes in attitudes over time.

Please take ten minutes to complete your questionnaire and return it to us by May 19. A self-addressed, stamped envelope is enclosed for your convenience. If you should have any questions about this study, please contact me at the address indicated above. My telephone number is (616) 383-8166.

Sincerely,

S. R. Sonnad

S. R. Sonnad
Survey Director

SURVEY IV

PERCEPTIONS OF IMPACT OF THINKABOUT SERIES

Number _____

Name _____

Town _____ State ____

DIRECTIONS: Please circle the numbers associated with your responses or fill in your responses.

SECTION A: BACKGROUND INFORMATION

1. Have you responded to any of our earlier questionnaires on ThinkAbout? — 0 No 1 One 2 Two 3 Don't remember

2. How would you describe the location of your school? — 1 Urban 2 Suburban 3 Small Town 4 Rural 5 Other

3. How many years of full-time teaching experience do you have including this year? — _____ years

4. Do you plan to use the ThinkAbout series next year? — 1 Yes 2 No 3 Not Sure

5. Are you currently using ThinkAbout in your classroom? (If No, please skip the rest of the questions and return the questionnaire to us. Thank you.) — 1 Yes 2 No

6. If yes, circle the grade(s) in which you use ThinkAbout. (If ungraded, please circle the nearest grade equivalent.) — 3 4 5 6 7 8 9 10

7. How many months including April have you been viewing ThinkAbout? — _____ months

8. How many of your classes use ThinkAbout? — _____ class(es)

9. What is the total number of your students using ThinkAbout? — _____ students

10. Do you view ThinkAbout on a public broadcast station or a videotape/tape/cassette format or any other format? — 1 Public Broadcast Station 2 Video tape/film/cassette format 3 Both 4 Other

SECTION B: IMPACT OF THINKABOUT

We are interested in your perception of the degree to which ThinkAbout was helpful in improving the skills of your students. For each item listed below, please rate by circling a number from 0 to 10 (0 to indicate not at all helpful, and 10 to indicate extremely helpful), the degree to which ThinkAbout was helpful to your students in improving their skills in.....

	Not at all helpful										Extremely helpful
11. finding alternatives.	0	1	2	3	4	5	6	7	8	9	10
12. estimating and approximating.	0	1	2	3	4	5	6	7	8	9	10
13. giving and getting meaning.	0	1	2	3	4	5	6	7	8	9	10
14. collecting information.	0	1	2	3	4	5	6	7	8	9	10
15. classifying.	0	1	2	3	4	5	6	7	8	9	10
16. finding patterns.	0	1	2	3	4	5	6	7	8	9	10
17. generalizing.	0	1	2	3	4	5	6	7	8	9	10
18. sequencing and scheduling.	0	1	2	3	4	5	6	7	8	9	10
19. using criteria.	0	1	2	3	4	5	6	7	8	9	10
20. reshaping information.	0	1	2	3	4	5	6	7	8	9	10
21. judging information.	0	1	2	3	4	5	6	7	8	9	10
22. communicating effectively.	0	1	2	3	4	5	6	7	8	9	10
23. solving problems.	0	1	2	3	4	5	6	7	8	9	10

SECTION C: SUMMARY OPINIONS

How would you rate the success of ThinkAbout in strengthening your students' ability to...

	Very low level of success	Low level of success	Neither low nor high level of success	High level of success	Very high level of success
24. be problem solvers.	1	2	3	4	5
25. be independent learners.	1	2	3	4	5
26. effectively express themselves.	1	2	3	4	5
27. manage their own learning.	1	2	3	4	5
28. reason systematically.	1	2	3	4	5
29. think flexibly.	1	2	3	4	5

SECTION D: WORKING MATERIALS

30. Which of the Teacher's Guides do you have? — 1 Preliminary Teacher's Guide 2 Teacher's Guide 3 Both 4 Neither

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21. Please indicate how important it would be to have each of the following materials to supplement the Teacher's Guide:	Essential	Very Useful	Useful	Not Necessary
Set of workbooks	1	2	3	4
Set of duplicating masters	1	2	3	4
Set of learning games	1	2	3	4
Set of teaching posters	1	2	3	4
Other _____ (please specify)	1	2	3	4

22. Please indicate your preference for the content in which these materials (workbooks, duplicating masters, learning games, teaching posters, etc.) should present ThinkAbout stories and activities: (please circle all that apply)

1 Content of Everyday Situations

2 Subject related content
- a. Language Arts
- b. Science
- c. Social Studies
- d. Other Subjects _____ (please specify)

3 Other _____ (please specify)

SECTION E: GENERAL OPINIONS AND ATTITUDES	Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree
33. Students find the ThinkAbout programs interesting.	1	2	3	4	5
34. The ThinkAbout series has high overall educational effectiveness.	1	2	3	4	5
35. ThinkAbout programs stimulate effective follow-up lessons.	1	2	3	4	5
36. Other teachers should be encouraged to use ThinkAbout.	1	2	3	4	5
37. ThinkAbout is a useful learning device.	1	2	3	4	5
38. ThinkAbout is a useful teaching device.	1	2	3	4	5

SECTION F: CLASSROOM VIEWING OF THINKABOUT PROGRAMS

39. What is the total number of different ThinkAbout programs that have been viewed in your class(es)? _____ programs

40. What is the name of the most recent program you viewed with your class(es)? _____

41. We have listed below all ThinkAbout programs by numbers and grouped them by clusters. Please indicate the programs you have viewed with your class(es) by checking the box marked "all" if you have seen all programs in that particular cluster, or by circling the programs you viewed from that cluster including the tip or challenge programs. If you have seen almost all or all 60 programs just check the box on the last line. (Please see the list of programs on the enclosed page)

Cluster 1: 1, 2, 3, 4;	All ☐	Cluster 2: 5, 6, 7, 8;	All ☐
Cluster 3: 9, 10, 11, 12, 13, 14, 15;	All ☐	Cluster 4: 16, 17, 18, 19;	All ☐
Cluster 5: 20, 21, 22, 23;	All ☐	Cluster 6: 24, 25, 26, 27, 28;	All ☐
Cluster 7: 29, 30, 31;	All ☐	Cluster 8: 32, 33, 34;	All ☐
Cluster 9: 35, 36, 37, 38;	All ☐	Cluster 10: 39, 40, 41, 42, 43;	All ☐
Cluster 11: 44, 45, 46, 47, 48, 49;	All ☐	Cluster 12: 50, 51, 52, 53, 54, 55;	All ☐
Cluster 13: 56, 57, 58, 59, 60;	All ☐	Almost all or all 60 programs in the series	☐

42. In your opinion, what is/are the best program(s) in the ThinkAbout series? (List up to three programs; if none, leave blank)

1. _____ 2. _____ 3. _____

43. In your opinion, what is/are the worst program(s) in the ThinkAbout series? (List up to three programs; if none, leave blank)

1. _____ 2. _____ 3. _____

44. Now that you have viewed ThinkAbout series for one year, we would very much appreciate it if you could share with us any final comments you may have about ThinkAbout.

_____

_____

_____

THANK YOU VERY MUCH AGAIN FOR YOUR EFFORTS AND CONTINUED COOPERATION

SURVEY IV

State _____ No. _____

Student Survey on ThinkAbout

We are interested in your personal and honest opinions of the ThinkAbout series. Please circle the answer which best fits your feelings or opinions. Your answers are very important to us so please answer all questions by yourself. When completed, place your questionnaire in the pre-stamped envelope which has our address on it. Please mail it directly to us. Thank you.

Look at each of the statements made about the ThinkAbout program. If you agree with a statement, draw a circle around either Strongly Agree or Agree. If you disagree, draw a circle around either Strongly Disagree or Disagree. The question mark (?) means that you cannot decide.

1. ThinkAbout programs show many interesting things that are not in our books.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
2. Most ThinkAbout programs are boring.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
3. I like learning things from T.V.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
4. ThinkAbout programs help me to come up with new ideas.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
5. ThinkAbout programs are not useful in solving my own problems.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
6. ThinkAbout helps me to think in new and different ways.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
7. ThinkAbout programs help me to learn on my own.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
8. ThinkAbout programs help me to say better what I really want to say.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
9. ThinkAbout has shown me how to solve problems on my own.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
10. ThinkAbout has helped me learn better ways to solve problems.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
11. ThinkAbout helps me to organize my thinking.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
12. ThinkAbout helps me to see more than one way to solve a problem.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
13. ThinkAbout programs are easy to understand.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
14. ThinkAbout programs show me how to think clearly, step by step.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
15. ThinkAbout programs are dumb.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
16. ThinkAbout programs are better for younger students.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
17. I want to learn more about the things I see in ThinkAbout programs.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
18. Most of the ThinkAbout programs seem real.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
19. ThinkAbout helps me to understand things I learn in many other classes.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
20. I like ThinkAbout very much.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
21. I like to discuss things I see on the ThinkAbout programs.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
22. I like ThinkAbout programs better now than when we first started watching them.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
23. I think more students should see ThinkAbout programs.	Strongly Agree	Agree	?	Disagree	Strongly Disagree
24. All problems can be easily solved.	Strongly Agree	Agree	?	Disagree	Strongly Disagree

25. What is your sex? 1_____male 2_____female

26. What grade are you in? 4 5 6 7 8

27. What two (2) ThinkAbout programs did you like the most? _____ _____

28. What two (2) ThinkAbout programs did you like the least? _____ _____

Thank you very much!

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PLEASE BRIGHTEN OUR DAY . . .

May 21, 1980

Dear Teacher:

We hope you received the questionnaire we mailed you several weeks ago regarding the use of ThinkAbout in your classroom.

The school year is coming to an end and surely you are quite busy with your classroom activitites. Perhaps you have not yet had time to complete the questionnaire. However, we are very anxious to receive your response.

Only you, as one of the teachers using ThinkAbout in the classroom, can give us the information we are seeking in this research study. This is our final questionnaire and we do need your opinions to complete our survey. Will you please take ten minutes of your time to complete the questionnaire and mail it back to us by June 3, 1980. We are enclosing another questionnaire and a self-addressed, stamped envelope for your convenience.

We would appreciate it if you would remind your two students who received the ThinkAbout student questionnaires from you to complete and return them as soon as possible.

Please ignore this letter if you have already mailed us your questionnaire. Thank you for your cooperation.

Sincerely,

S. R. Sonnad

S. R. Sonnad
Survey Director

AND RETURN YOUR QUESTIONNAIRE

PLEASE BRIGHTEN OUR DAY . . .

May 21, 1980

Dear Friend of ThinkAbout:

We hope you received the questionnaire we mailed you a few weeks ago which had to do with the use of ThinkAbout in your classroom. We are still anxiously awaiting your response.

The school year is coming to an end and surely you are quite busy with your classroom activities. Perhaps you have not yet had time to complete the questionnaire. However, we are very anxious to receive your response.

As a continuing participant in our study of ThinkAbout, your responses are especially crucial to our report. Only you, as one of the teachers using ThinkAbout in the classroom, can give us the information we are seeking in this research study. This is the final questionnaire. Any additional comments or suggestions you might have are welcome.

We are sending you another questionnaire and a stamped, self-addressed envelope for your convenience. Please take ten minutes to complete the questionnaire and mail it back to us by June 3, 1980.

We would appreciate it if you would remind your two students who received the ThinkAbout student questionnaires from you to complete and return them as soon as possible.

Please ignore this request if you have already mailed us your questionnaire. We thank you for your continued cooperation in this study.

Yours sincerely,

S. R. Sonnad

S. R. Sonnad
Survey Director

AND RETURN YOUR QUESTIONNAIRE

APPENDIX F

EXAMINERS' MANUAL

THINKABOUT TESTING STUDY

General Information,
Preparation For Testing, and
Instructions for Test Administration

Evaluation Center
Western Michigan University
1979-1980

The Testing Study

The Agency for Instructional Television (AIT) has contracted with the Evaluation Center of Western Michigan University to conduct several research studies of the ThinkAbout instructional television series. One of these, termed the testing study, will seek to determine whether participation in the series by fifth and sixth grade students leads to any changes in basic skills.

To pursue the testing study, the Evaluation Center has selected four states in which the ThinkAbout series will be used: Iowa, Mississippi, Oregon and Pennsylvania. Within each of these states, a sample of classrooms participating in the ThinkAbout series, and a similar sample of non-participating classrooms, have been identified to represent the geography and demography of the state.

The general plan for the testing study will require testing to be conducted in 18 participating 5th grade classrooms, 18 participating 6th grade classrooms, 18 non-participating 5th grade classrooms, and 18 non-participating 6th grade classrooms--a total of 72 classrooms in each state. All classrooms will be tested in September or early October, 1979, and again in May, 1980; some classrooms will be tested also in January, 1980.

Three types of tests will be used in the testing study. From the Comprehensive Tests of Basic Skills (CTBS), six subtests have been selected: Reading Comprehension, Language Expression, Mathematics Concepts and Applications, Reference Skills, Science, and Social Studies. Each student will be given only three of the CTBS subtests. In addition, there are three ThinkAbout series-specific exercises designed for this study: Brian's Doormats, Maria's Vegetable Garden, and Mystery of the Whales. There are two forms B and C for each exercise. Each student will take one of these ThinkAbout exercise forms. Finally, each student will complete an attitudes toward problem solving inventory.

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Comprehensive Tests of Basic Skills (CTBS)

The six subtests of this battery that will be used in the testing study are:

Test 2 - Reading Comprehension

Test 5 - Language Expression

Test 7 - Mathematics Concepts and Applications

Test 8 - Reference Skills

Test 9 - Science

Test 10- Social Studies

A description of each of the subtests appears in Part 1 (pages 1-5) of the Examiner's Manual for the Comprehensive Tests of Basic Skills.

ThinkAbout Problem-Solving Exercises

The use of realistic, engaging thought problems enhances student test-taking motivation and allows for the appraisal of thinking skills in a meaningful context. The three ThinkAbout problem-solving exercises--Brian's Doormats, Maria's Vegetable Garden, and Mystery of the Whales--are especially designed to assess the impact of the ThinkAbout series on the thinking skills of upper-elementary students.

The format and rationale of the problem-solving tasks differ somehwat from most school achievement tests. In these problems, the student participates vicariously with other youngsters, or with adults (typically scientists), as they work through a complete thinking episode, from problem discovery to problem solution. In doing this, students demonstrate their proficiency on a number of interrelated thinking skills that the ThinkAbout series is intended to promote. These skills range from idea generation and planning a strategy to collect appropriate information, to evaluating the usefulness of ideas.

ThinkAbout Attitude Toward Problem-Solving Inventory

Students are asked to express their attitudes toward a number of statements related to problem-solving. Since there are no right or wrong answers to the statements, students usually enjoy completing this inventory. Their responses will enable the ThinkAbout staff to trace changes in attitudes over the year and to better understand the relationship between using the ThinkAbout series and how upper elementary grade students approach problematic situations.

Preparation for Testing

1. Checking Materials

Your packet of testing materials for a testing group should include the following:

a. 30 CTBS Examination Booklets

b. 30 CTBS CompuScan Answer Sheets

c. 30 ThinkAbout Problem Solving Exercises

d. 30 Attitudes Toward Problem Solving Inventories

e. A CTBS Examiner's Manual

f. Directions for Using CompuScan Answer Sheets

g. 30 Number 2 pencils

h. Scratch Paper

i. A timepiece

j. A Teacher Interview Questionnaire

k. A Return Mailing Envelope

Please check to be sure that all materials are in order prior to meeting with the testing group. (Test administrators should secure the pencils, scratch paper and time piece on their own).

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2. Informing Students About the Tests

Teachers should be asked to inform their students in advance that the tests will be given on the scheduled testing date. Teachers should explain that students will be expected to do their best on the tests and that the results will be used to make decisions about the classwork they will be given this year and next. Teachers should not stress the details of the research project when they talk to their class.

3. Dividing Students into Testing Groups

At least two classrooms will be tested in each school building. You and the other examiner(s) should plan to arrive at the school building no later than 8:30 am on the scheduled testing date. Go directly to the classroom that you are responsible for and explain to the teacher that you will be sending one-half of the students in the classroom into the other classroom for testing purposes. In turn, one-half of the other classroom will be coming into this classroom. Thus, two testing groups will be formed. The two groups will take the tests as follows:

Group 1: CTBS Test 2
CTBS Test 7
CTBS Test 10
ThinkAbout Problem Solving Exercise
ThinkAbout Attitudes Toward Problem Solving Inventory

Group 2: CTBS Test 5
CTBS Test 8
CTBS Test 9
ThinkAbout Problem Solving Exercise
ThinkAbout Attitudes Toward Problem Solving Inventory

You should arrange with the other examiner(s) before the scheduled testing date how you are going to do the testing so that when the scheduled testing date arrives the assignment of students to testing group will proceed smoothly. You may choose

which of the one-half of the classroom is to move into the other classroom in any way that you wish. We would suggest just doing it by rows according to the seating arrangement.

4. Testing Schedule

The testing schedule for the day for each of the testing groups should be approximately as follows:

Group 1:	9:15 - 10:15	Administration of CTBS Test 2 (Reading Comprehension)
	10:15 - 10:45	Break
	10:45 - 11:45	Administration of CTBS Test 7 (Mathematics Concepts and Applications)
	11:45 - 12:45	Break
	12:45 - 1:45	Administration of CTBS Test 10 (Social Studies)
	1:45 - 2:00	Break
	2:00 - 2:30	ThinkAbout Problem Solving Exercise
	2:30 - 2:40	Break
	2:40 - 3:00	ThinkAbout Attitudes Toward Problem Solving Inventory
Group 2:	9:15 - 10:15	Administration of CTBS Test 5 (Language Expression)
	10:15 - 10:45	Break
	10:45 - 11:45	Administration of CTBS Test 8 (Reference Skills)
	11:45 - 12:45	Break
	12:45 - 1:45	Administration of CTBS Test 9 (Science)
	1:45 - 2:00	Break
	2:00 - 2:30	ThinkAbout Problem Solving Exercise
	2:30 - 2:40	Break
	2:40 - 3:00	ThinkAbout Attitudes Toward Problem Solving Inventory

5. Preparation for Administration of the CTBS

Refer to the CTBS Examiner's Manual, Part 2, pages 7-12. You should be thoroughly familiar with this material prior to the scheduled testing date. Hand out the CompuScan answer sheets and follow the directions for using CompuScan answer sheets.

Instructions for Test Administration

1. Comprehensive Tests of Basic Skills (CTBS)

Refer to the CTBS Examiner's Manual, Part 3, pages 13-35 for the particular general and specific directions for the tests you are to administer. You should be thoroughly familiar with these administration directions prior to the scheduled testing date. Follow the directions in the Manual exactly. Make sure the students understand the directions before saying "GO" (allow for questions). Circulate to assure that directions are being followed. You may help with directions and the mechanical aspects of test taking, but do not help by given answers, clues to answers, or rationale for any item. If a student loses time (bathroom, illness, disruption) for any test, mark all answers in that subtest with a double mark. The computer will not record a score for that subtest. Collect all CTBS materials after the final CTBS test and separate the answer sheets from the test booklets for mailing to the Evaluation Center.

2. ThinkAbout Problem Solving Exercises

Distribute the ThinkAbout Exercises in the order that they are assembled. Each student should receive one Exercise. Instruct students to print their name on the front of the exercise. Have them then check whether they are a girl or a boy. Then have them print their own classroom teacher's name, the name of the school, the date, their town or city and their state in the lines provided on the front of the Exercise.

Then,

SAY: Your work on this exercise will not be graded. Try to do your best. Your answers and ideas are important because they will help teachers and others learn more about the kinds of problems students enjoy, and how to help students improve their thinking. There are several important rules to remember as you work on this problem:

1. Answer each question as you go.
2. Do not look ahead or skip to a new page until you have finished the one you were working on.
3. You may always go back and re-read things on earlier pages. But, do not add more ideas or change your answers on pages that you have already finished.
4. Work at your own speed. When you finish a page you may go on to the next page until you have completed the entire booklet.

If you have any questions, please raise your hand. Okay, begin by reading the story and then go on to the next page. Raise your hand anytime you have a question.

Examiners may answer any student questions about procedures, but do not provide answers or clues to answers. If for any reason you believe that the performance of a student is invalid, write your comments on the front of the Exercise booklet. All students should be able to complete the exercise within a 30 minute period. You may allow a few extra minutes to finish if necessary. If students finish early, have them sit quietly at their desks. Collect all Exercise booklets after all students have completed the booklet. Check all booklets to see if they have been completed. All booklets should be mailed to the Evaluation Center.

3. Attitude Toward Problem Solving Inventory

Distribute the Atttitude Toward Problem Solving Inventory to all students. Each student should receive one Inventory. Instruct students to print their name on the top of the Inventory. Have them then check whether they are a girl or a boy.

Then have them print their own classroom teachers name, the name of their school, the date, and their town or city and their state in the lines provided at the top of the page.

Then,

SAY: Your answers to these questions will not be graded. Your answers are important because they will help teachers and others learn more about your ideas and feelings. There are no right or wrong answers so respond according to your own way of thinking. "Below are things that students sometimes say about school and about their ways of thinking. Look at each statement. If you agree with a statement, draw a circle around either Strongly Agree or Agree. If you disagree, draw a circle around either Strongly Disagree or Disagree. The question mark means you cannot decide." Do you have any questions? Okay, read each statement and indicate how you feel about it. Raise your hand anytime you have a question.

Examiners may answer any student questions about procedures, but do not provide help in deciding how to respond to a statement. Let the students decide. If for any reason you believe that the performance of a student is invalid, write your comments on the front of the Attitude Inventory. All students should be able to complete the Inventory within a 15 minute period. You may allow a few extra minutes to finish if necessary. If students finish early, have them sit quietly at their desks. One item was inadvertently omitted on the Inventory during production, so when all students have finished the first 29 items,

SAY: okay now turn to page 3 of this form. One more item should be added as number 30. Under item 29, write the number 30 and then this statement (read slowly). "It is best to let others give their ideas first so you will not make the same mistakes they do."

Then write how you would answer this item. Write Strongly Agree, Agree, Question Mark, Strongly Disagree or Disagree. Write only one answer according to how you feel.

Then collect all Inventories and check to see that they have been completed correctly. All Inventories should be mailed to the Evaluation Center.

At this point, thank the students and their teachers for their cooperation.

Administration of Teacher Interview Schedule

At sometime during the day, ask the classroom teacher if you could ask him/her some background and attitudinal questions about instructional television. There are two types of schedules. The regular schedule on white paper is for teachers who use ThinkAbout in their classrooms. The short form on colored paper with 24 questions is for teachers who do not use ThinkAbout in their classrooms. Indicate that you have a set of questions to ask of the teachers and that their response will help to explain testing results. Then conduct the interview using the appropriate form and record the teacher's responses on the interview schedule. Be sure to complete the schedule. The completed form should be mailed to the Evaluation Center along with the student data.

Possibly a good time to conduct the interview would be over lunch or, perhaps during a break or after school.

Instructions for Mailing

1. Collect all CTBS CompuScan Answer Sheets, ThinkAbout Exercises, Attitudes Toward Problem Solving Inventories, and the Interview Schedule and insert them into the pre-paid return mailer provided. Please staple the package securely.

2. The materials for the testing group should be mailed immediately to:

The Evaluation Center
Western Michigan University
Kalamazoo, Michigan 49008
attn: AIT

Hotline Phone Number: If problems or questions arise, call your state's coordinator or call collect to Mr. Kim Kleist at the Evaluation Center, (616) 383-8166.

APPENDIX G

TESTING STUDY ORIENTATION AGENDA

AGENDA

THINKABOUT TESTING STUDY ORIENTATION MEETING

1. Introductions; purpose of the meeting
2. Description of research being conducted on ThinkAbout
3. Description of the testing study
4. Distribution of testing materials for September-October testing and responsibility of storage of testing materials
5. Procedures for testing
6. Examiners' directions and materials
7. Mailing results to the Evaluation Center
8. Schedule for the year and reporting results to districts

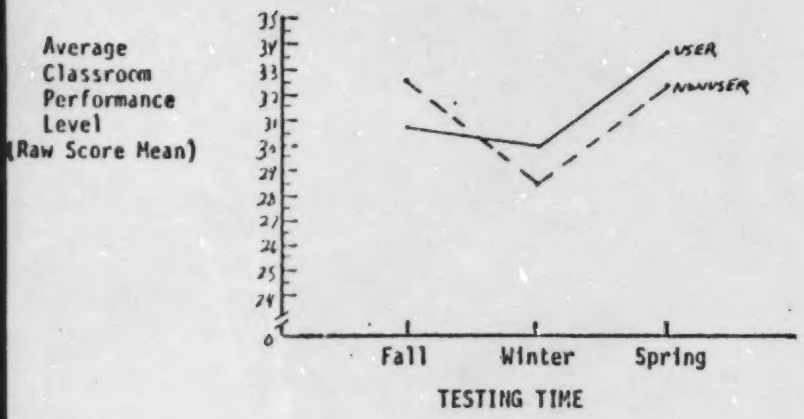
APPENDIX H

GRAPHS OF TESTING STUDY FINDINGS BY STATE

FIGURE 1

1979-80 CHANGE IN CTBS PERFORMANCE FOR USER AND NONUSER CLASSROOMS.
5th GRADE - READING COMPREHENSION

IOWA



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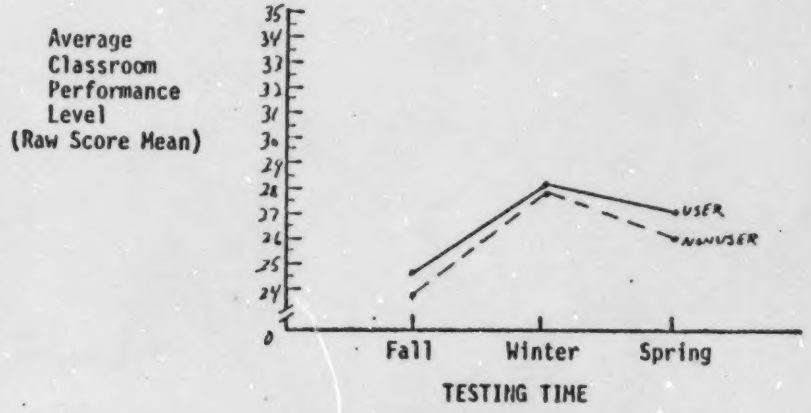
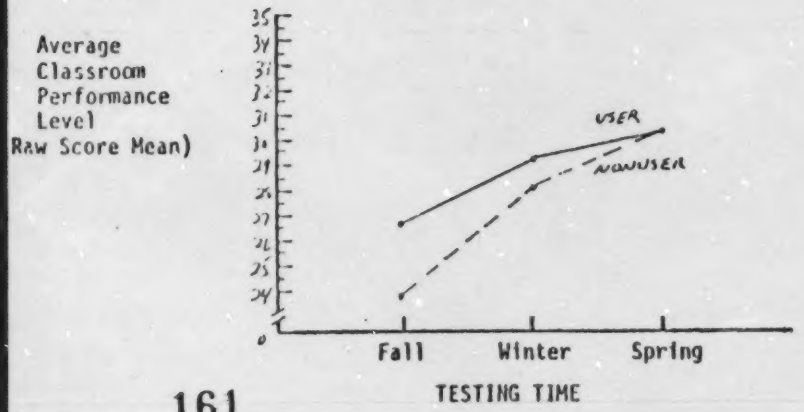


OREGON



PENNSYLVANIA

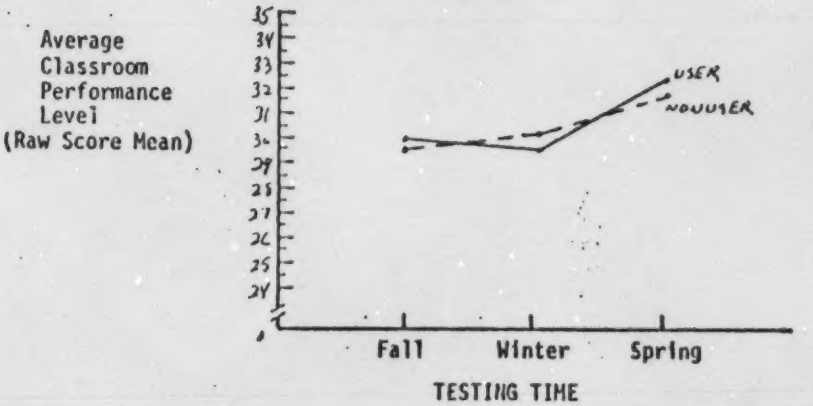
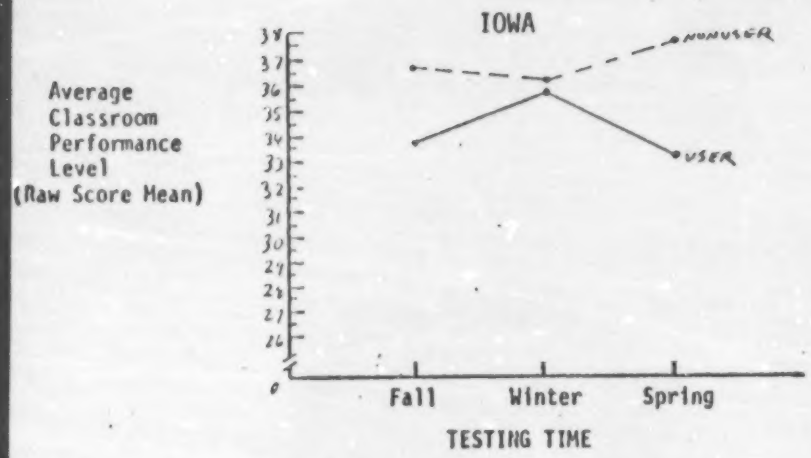
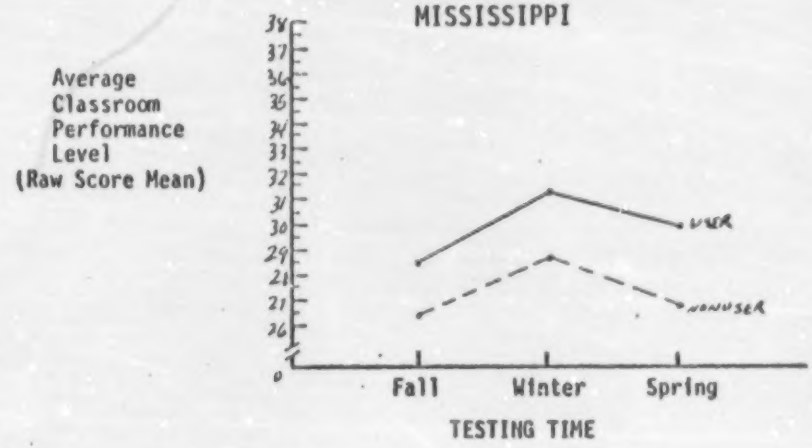
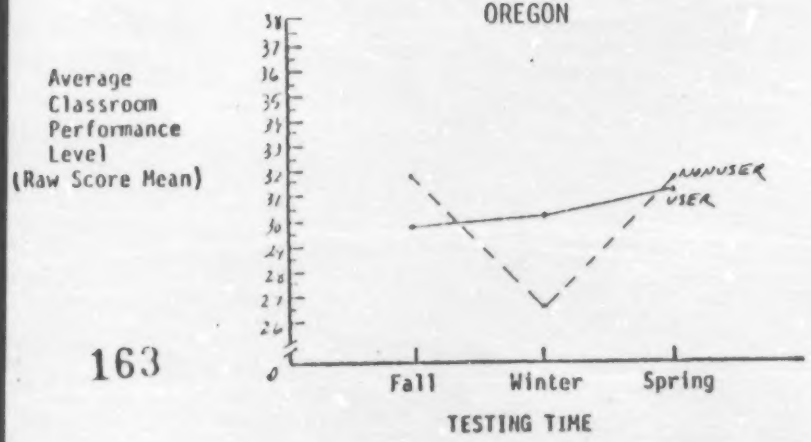


FIGURE 2

1979-80 CHANGE IN CTBS PERFORMANCE FOR USER AND NONUSER CLASSROOMS.
6th GRADE - READING COMPREHENSION







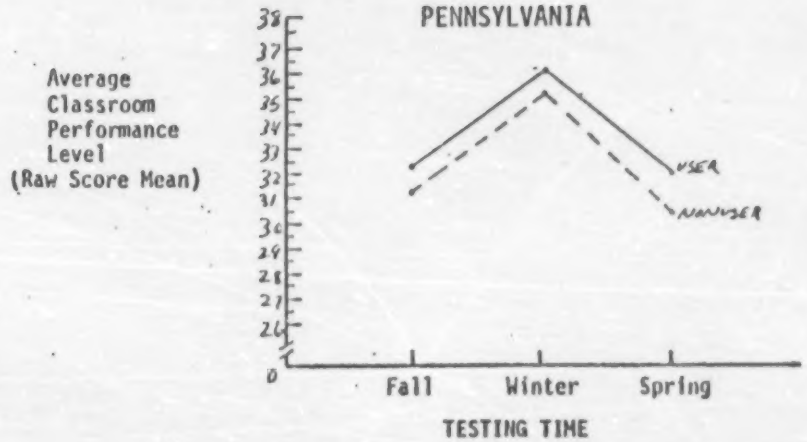


FIGURE 3

1979-80 CHANGE IN CTBS PERFORMANCE FOR USER AND NONUSER CLASSROOMS.
5th GRADE - LANGUAGE EXPRESSION

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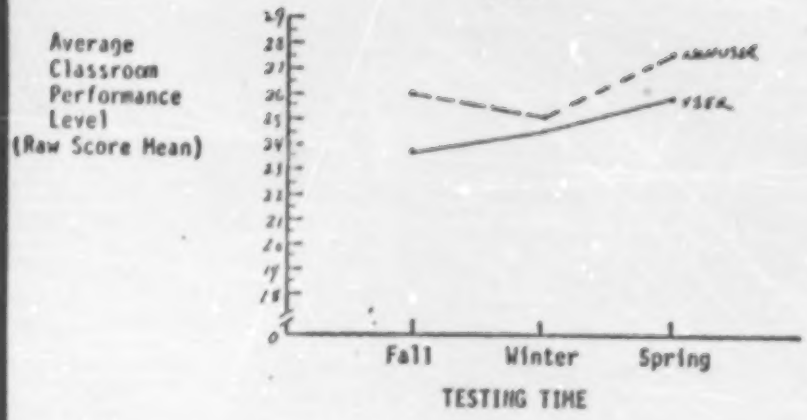

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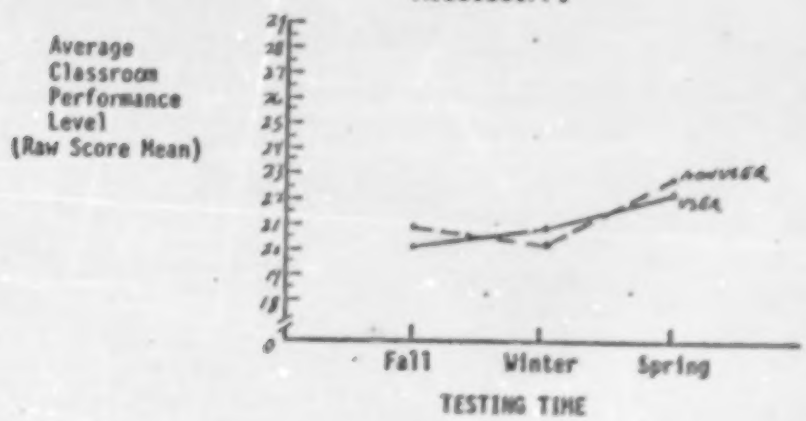

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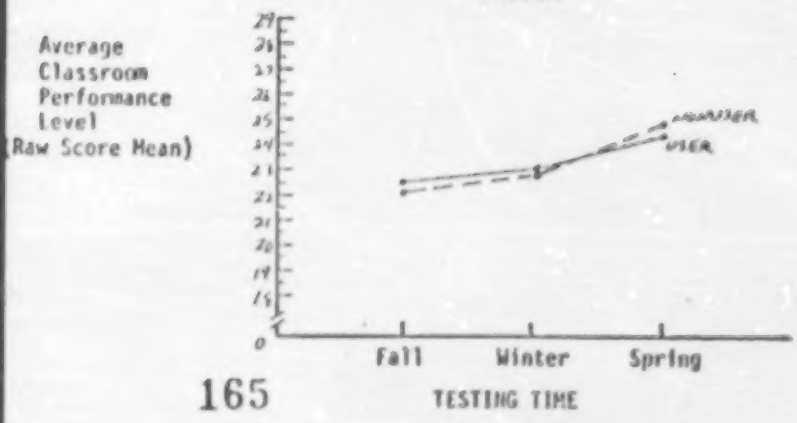

PENNSYLVANIA

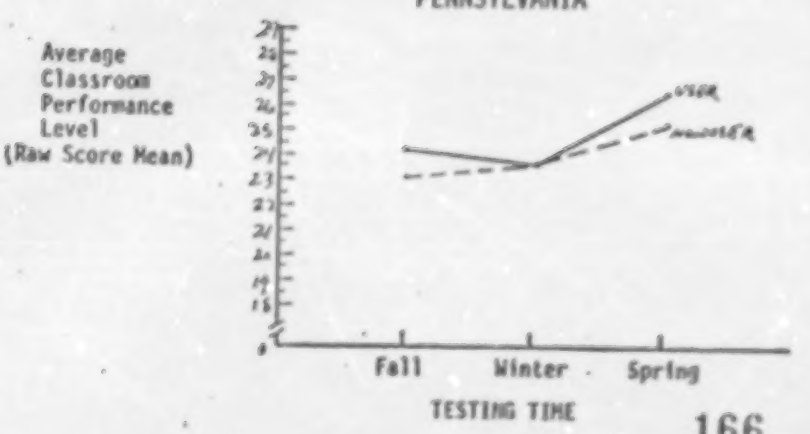

FIGURE 4

1979-80 CHANGE IN CTBS PERFORMANCE FOR USER AND NONUSER CLASSROOMS.
6th GRADE - LANGUAGE EXPRESSION

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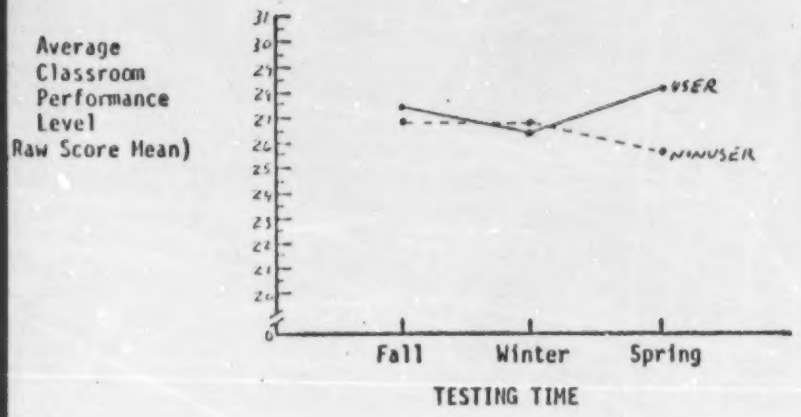

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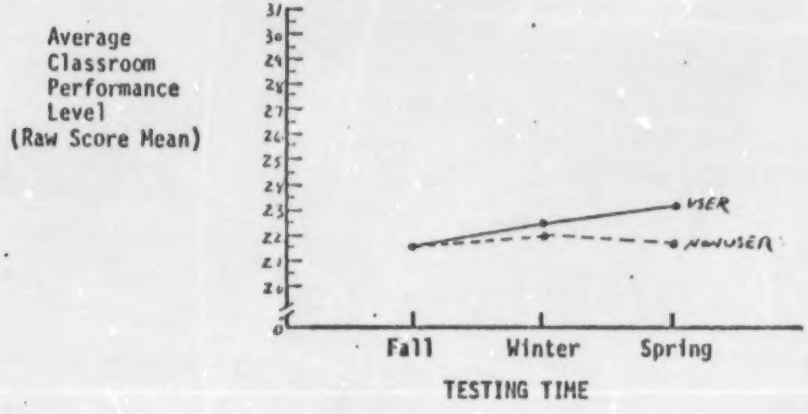

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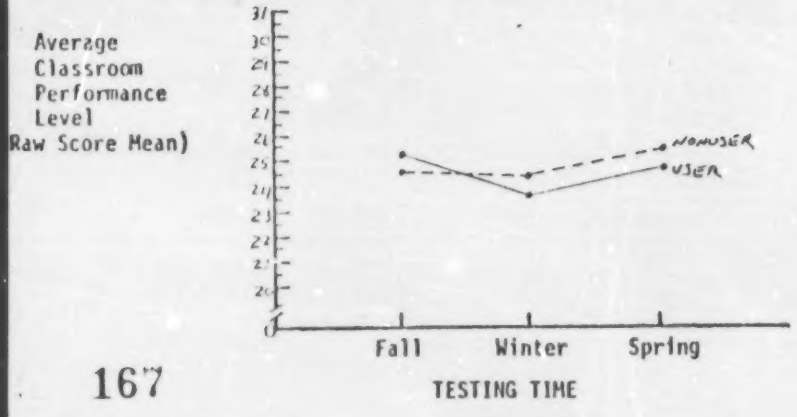

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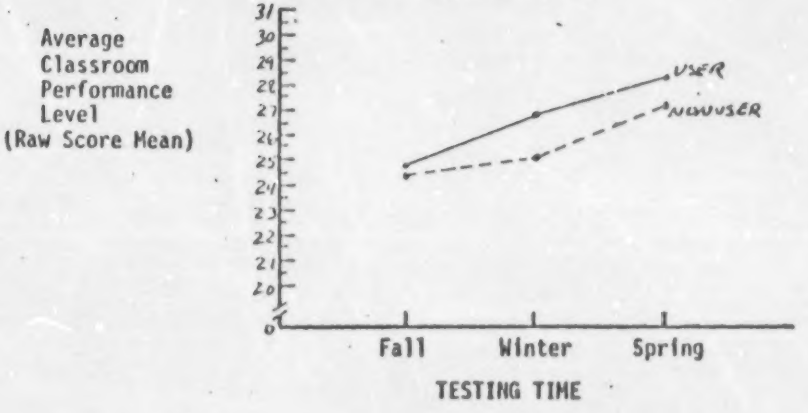

FIGURE 5

1979-80 CHANGE IN CTBS PERFORMANCE FOR USER AND NONUSER CLASSROOMS.
5th GRADE - MATHEMATICS CONCEPTS

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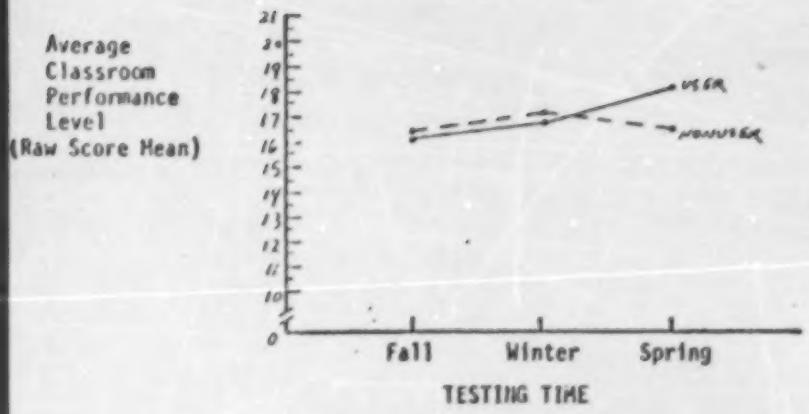

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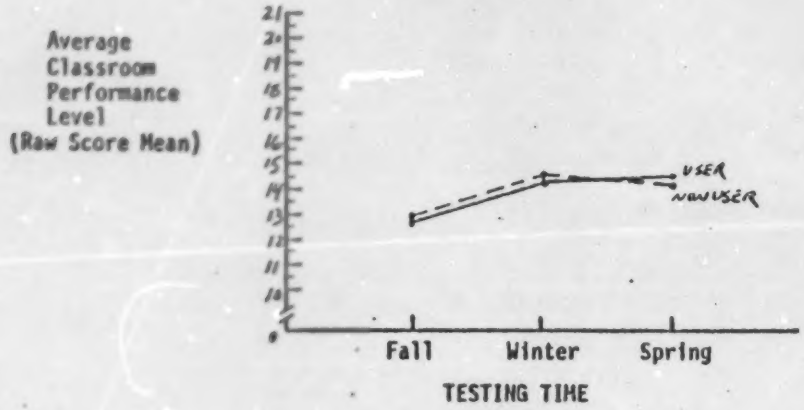

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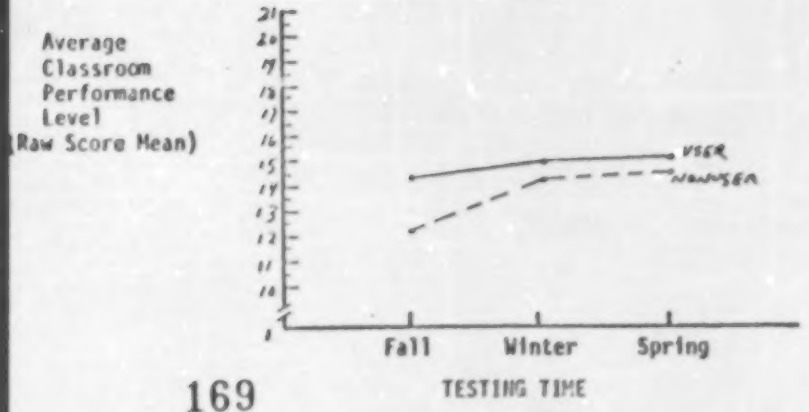

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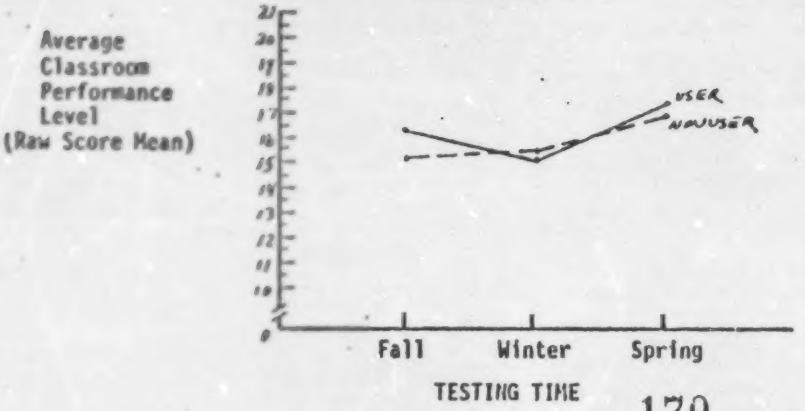

FIGURE 6

1979-80 CHANGE IN CTBS PERFORMANCE FOR USER AND NONUSER CLASSROOMS.
6th GRADE - MATHEMATICS CONCEPTS

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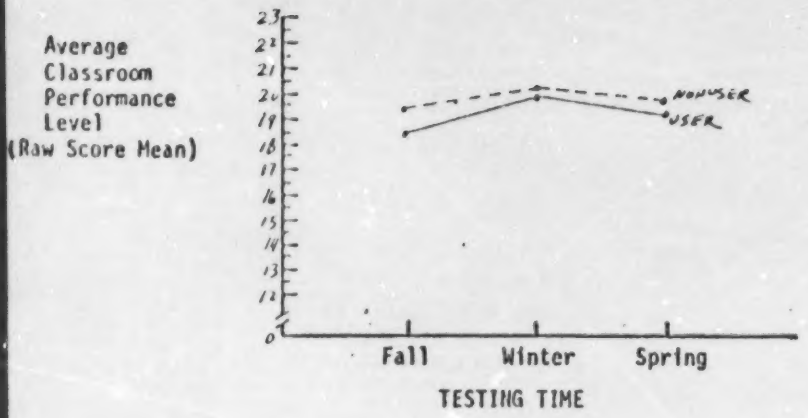

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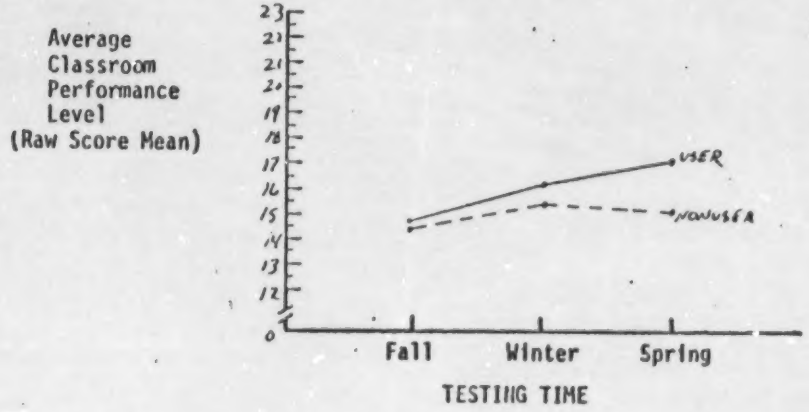

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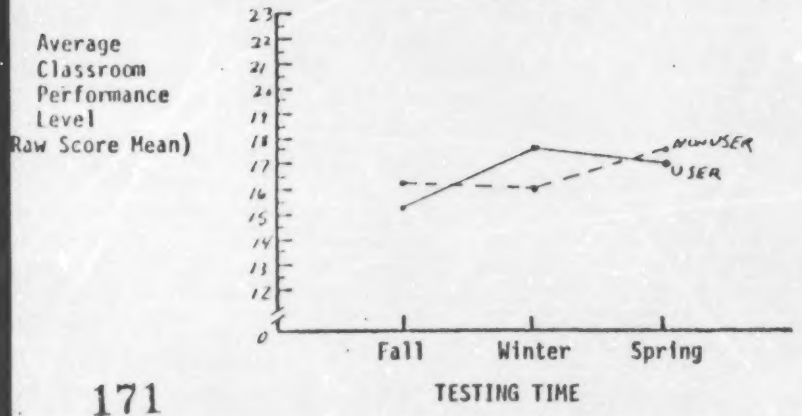

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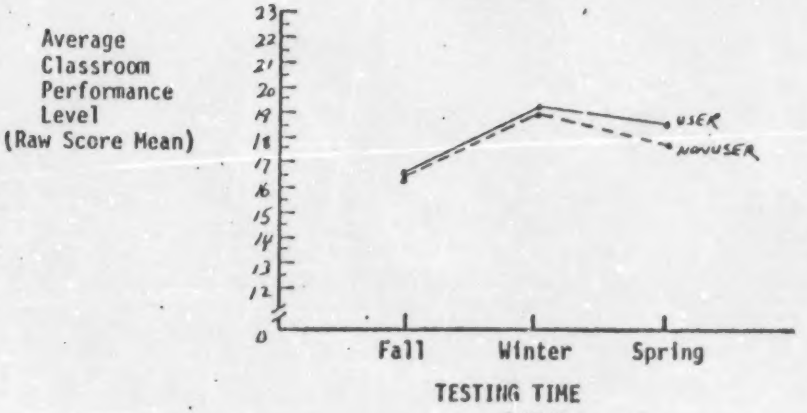

FIGURE 7

1979-80 CHANGE IN CTBS PERFORMANCE FOR USER AND NONUSER CLASSROOMS.
5th GRADE - MATHEMATICS APPLICATIONS

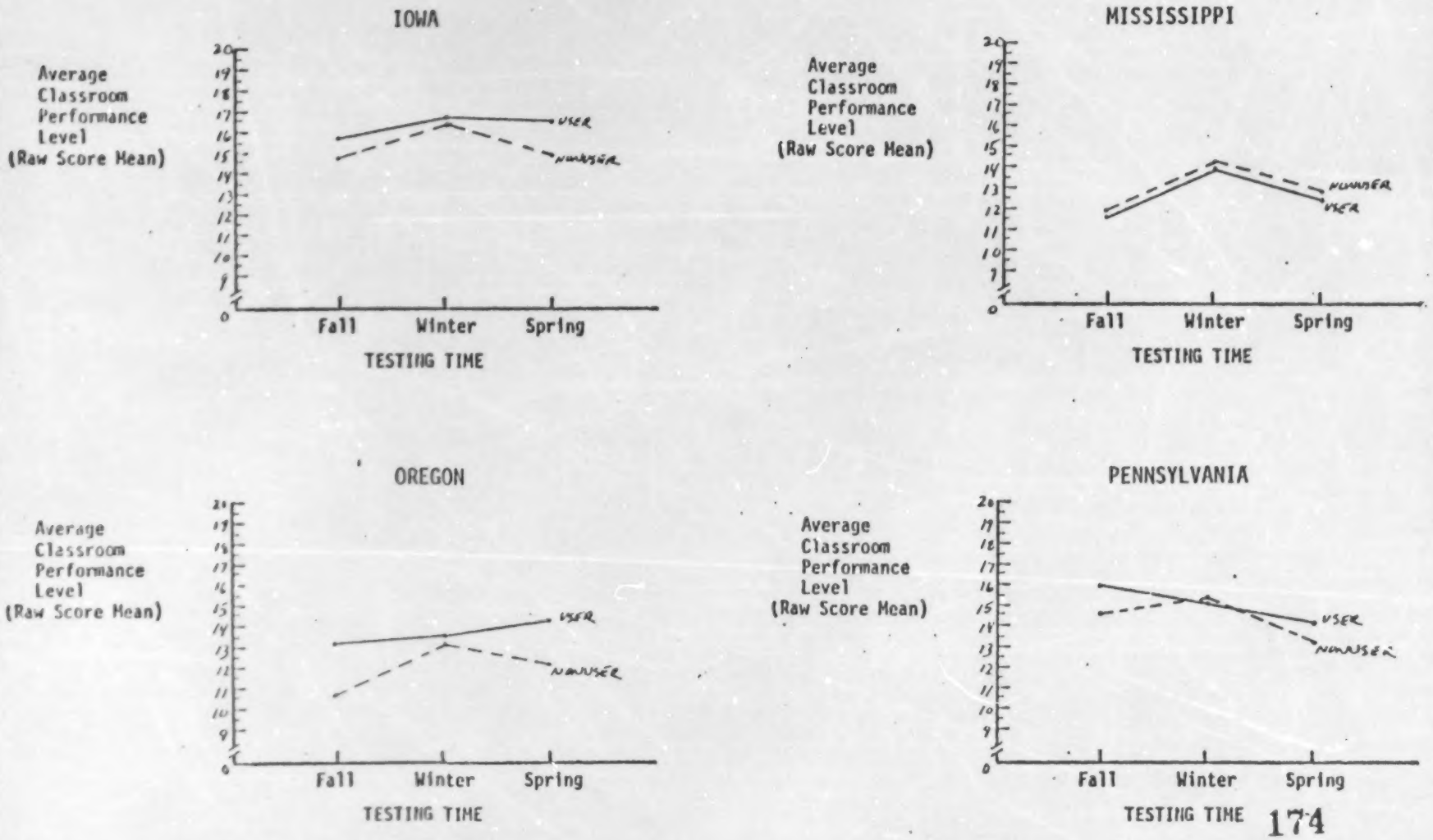

FIGURE 8

1979-80 CHANGE IN CTBS PERFORMANCE FOR USER AND NONUSER CLASSROOMS.
6th GRADE - MATHEMATICS APPLICATIONS

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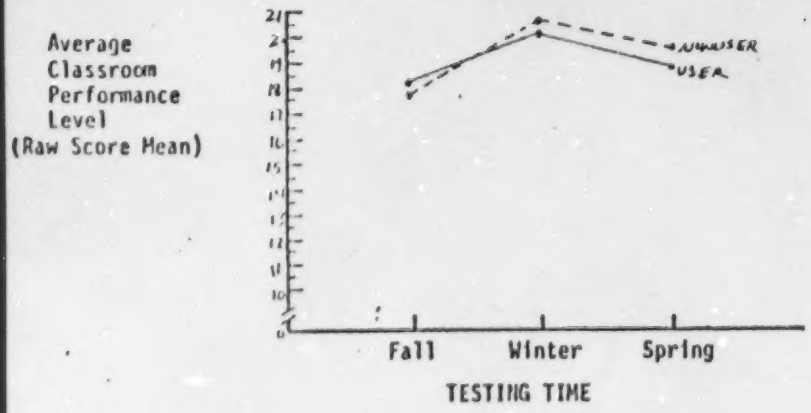

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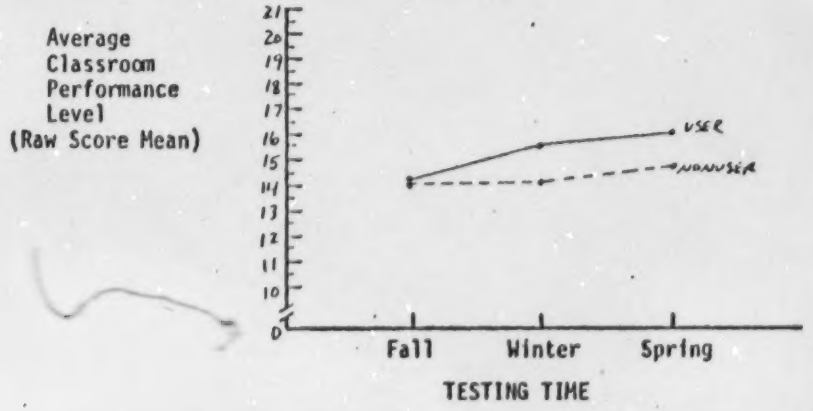

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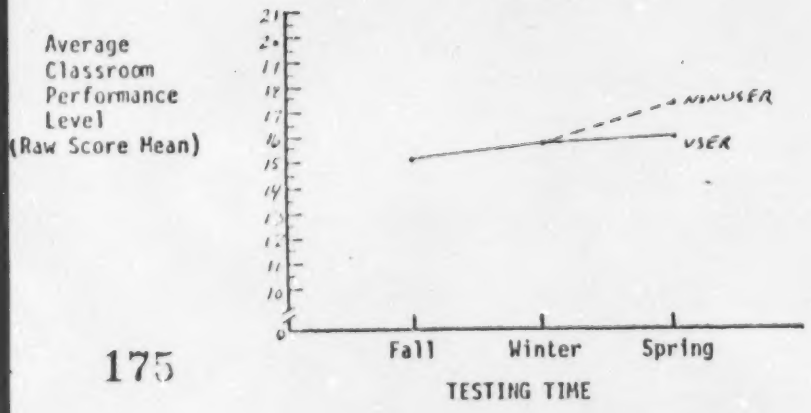

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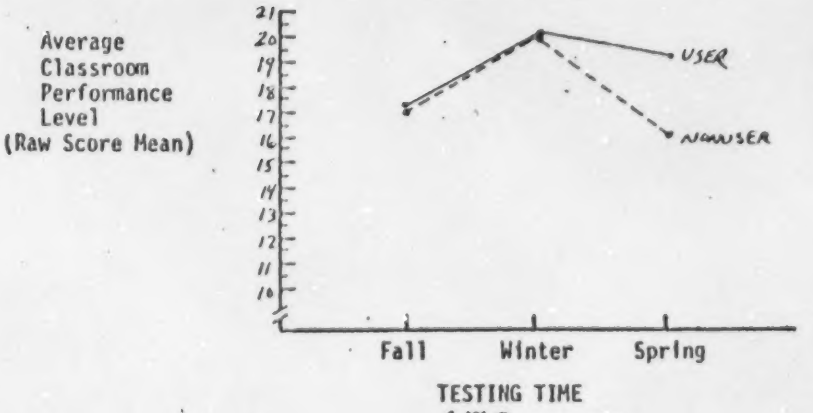
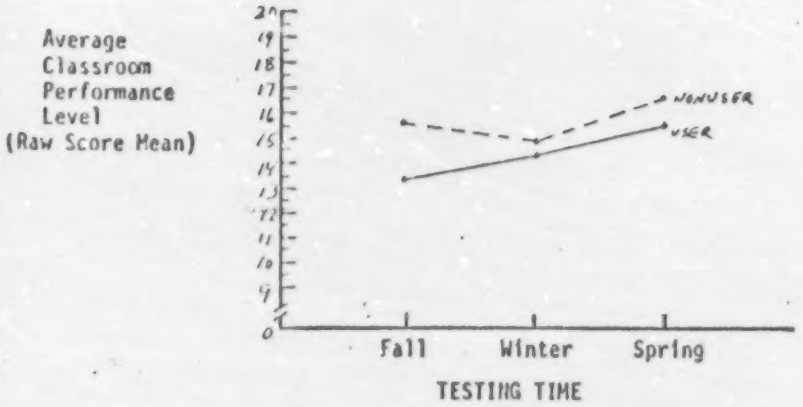


FIGURE 9

1979-80 CHANGE IN CTBS PERFORMANCE FOR USER AND NONUSER CLASSROOMS.
5th GRADE - REFERENCE SKILLS

IOWA



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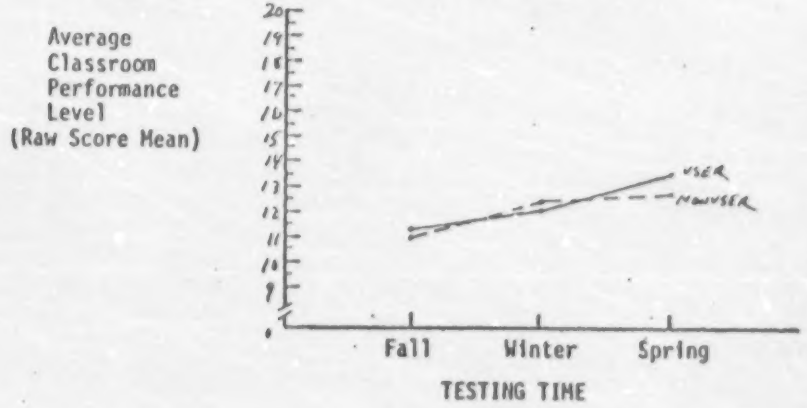

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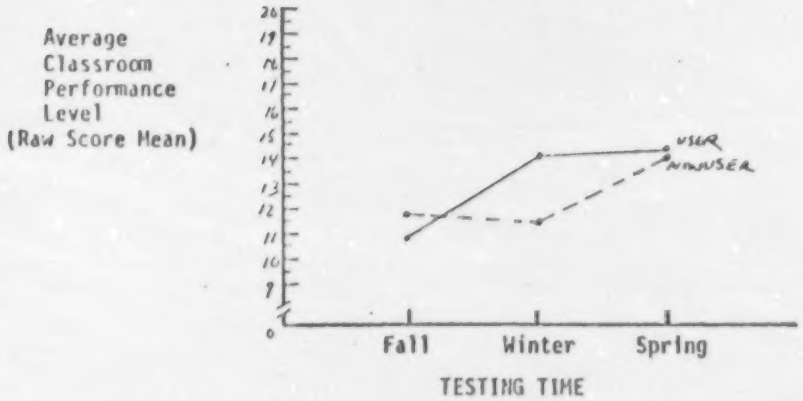

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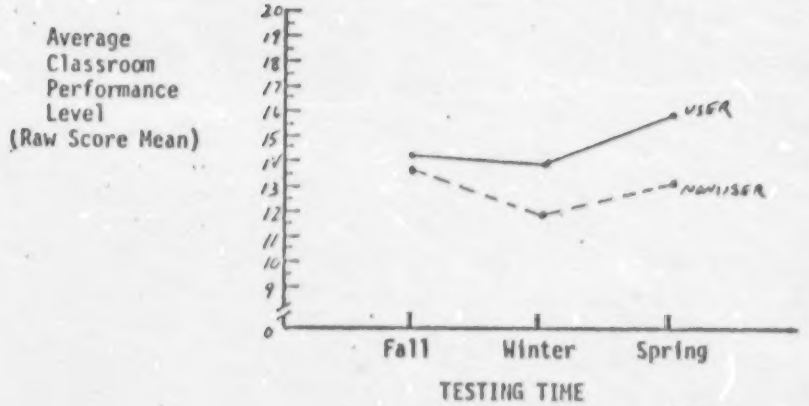

FIGURE 10

1979-80 CHANGE IN CTBS PERFORMANCE FOR USER AND NONUSER CLASSROOMS.
6th GRADE - REFERENCE SKILLS

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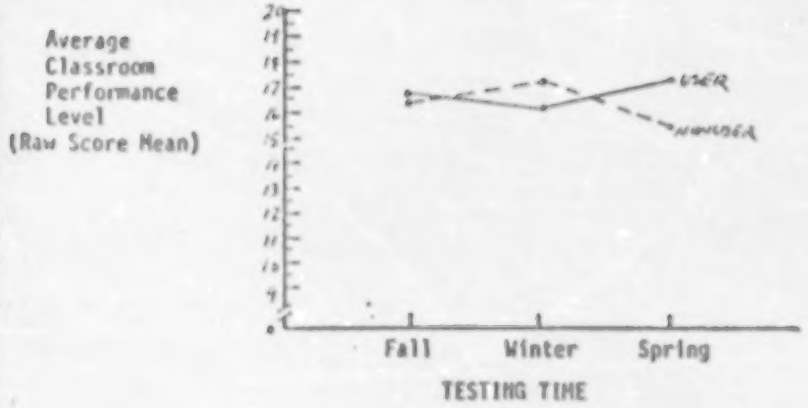

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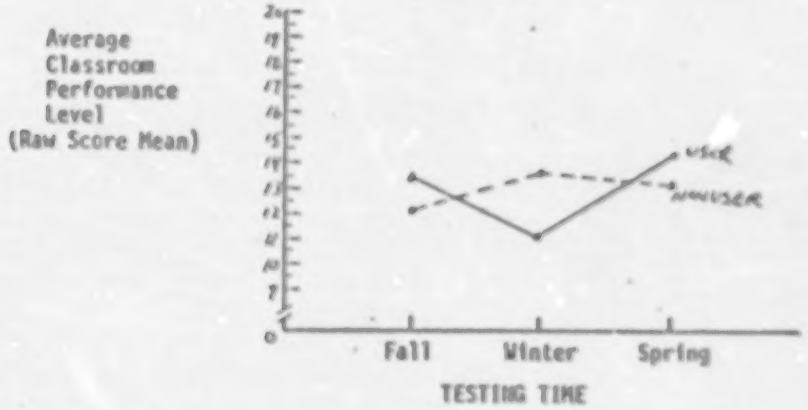

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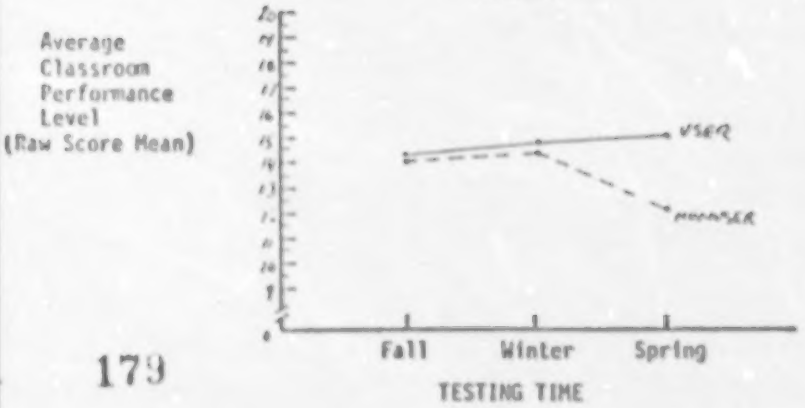

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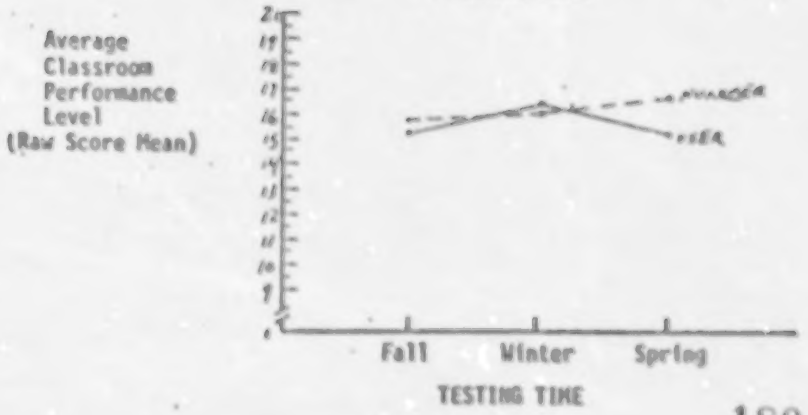

FIGURE 11

1979-80 CHANGE IN CTBS PERFORMANCE FOR USER AND NONUSER CLASSROOMS.
5th GRADE - SCIENCE

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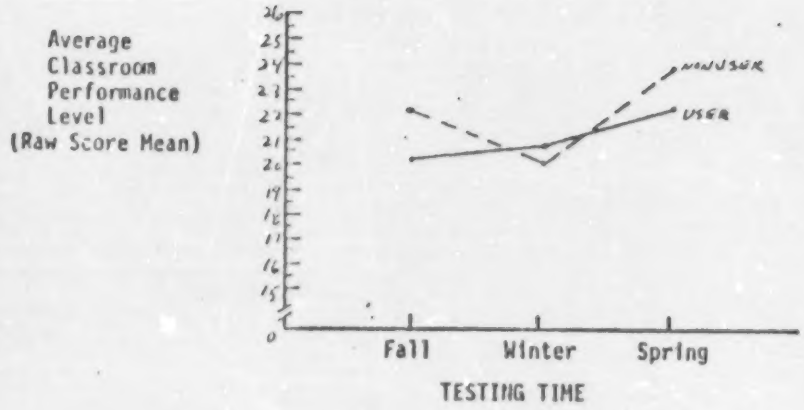

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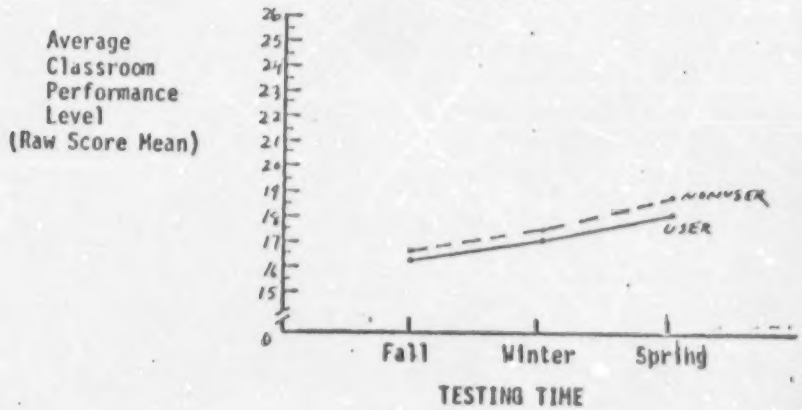

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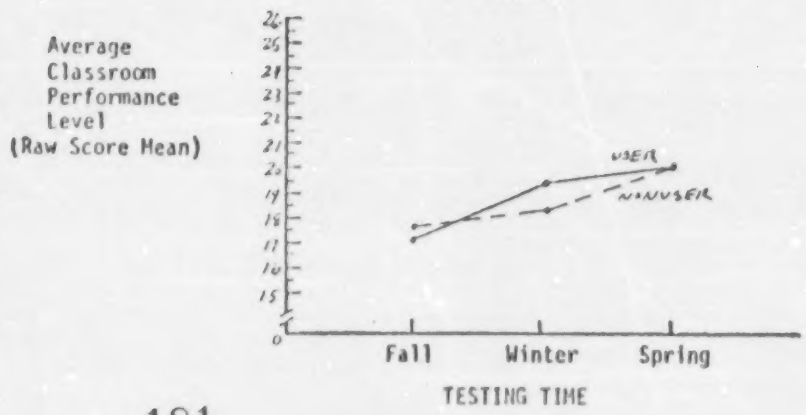

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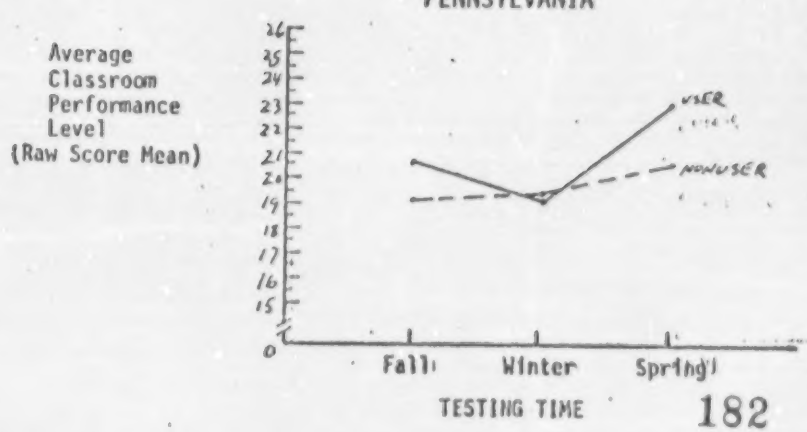

FIGURE 12

1979-80 CHANGE IN CTBS PERFORMANCE FOR USER AND NONUSER CLASSROOMS.
6th GRADE - SCIENCE

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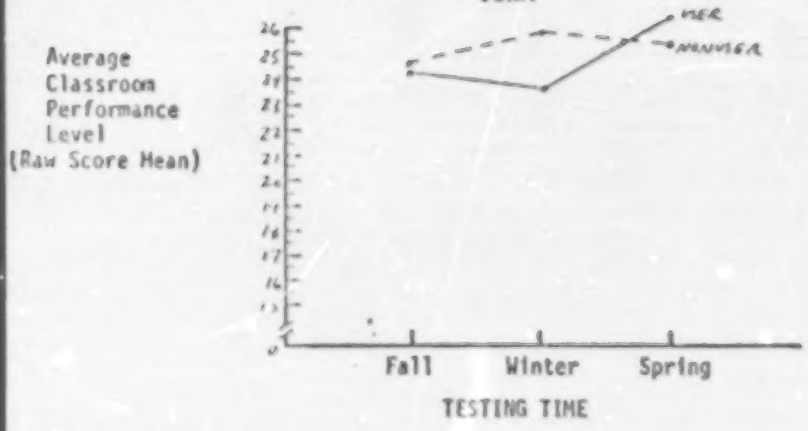

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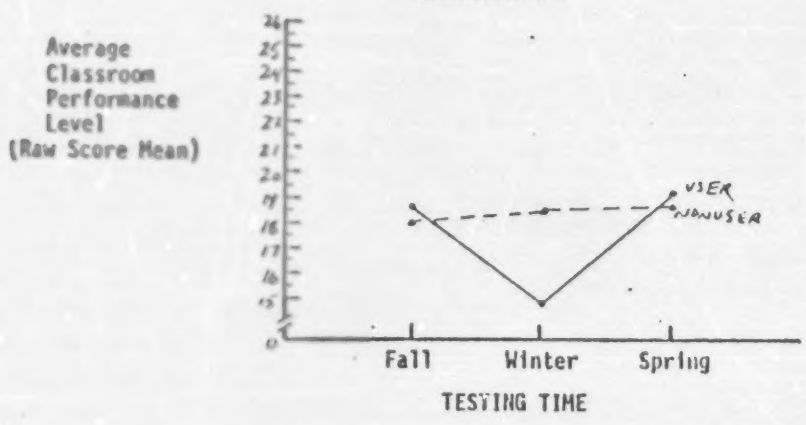

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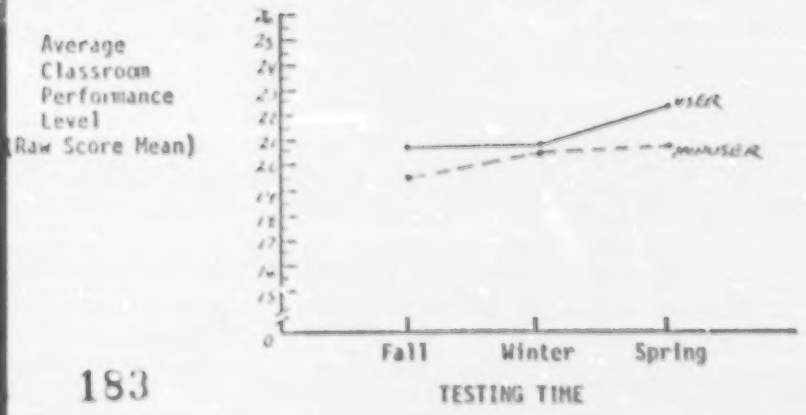

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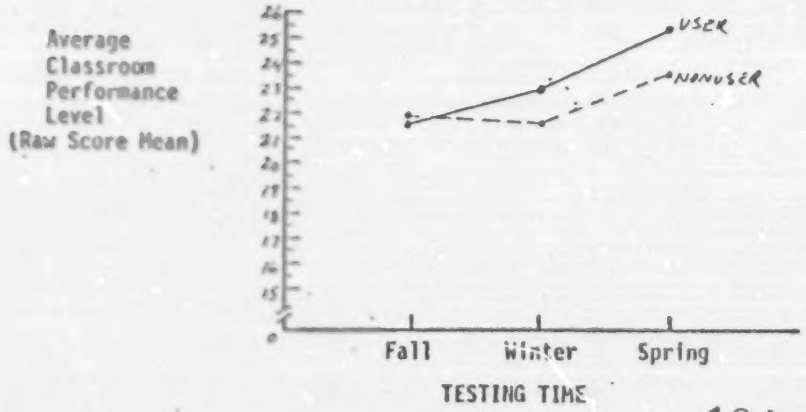

FIGURE 13

1979-80 CHANGE IN CTBS PERFORMANCE FOR USER AND NONUSER CLASSROOMS.
5th GRADE - SOCIAL STUDIES

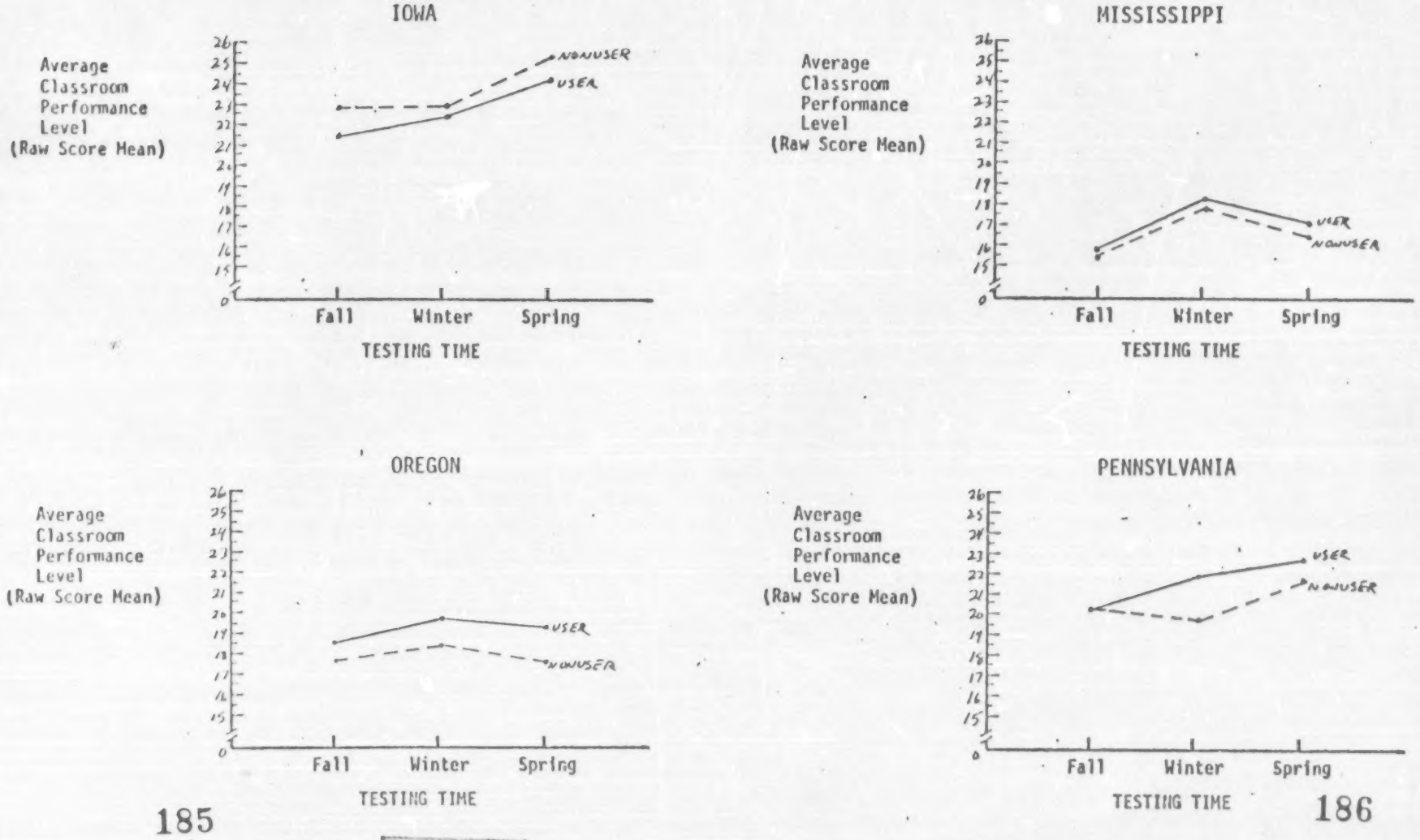

FIGURE 14

1979-80 CHANGE IN CTBS PERFORMANCE FOR USER AND NONUSER CLASSROOMS.
6th GRADE - SOCIAL STUDIES

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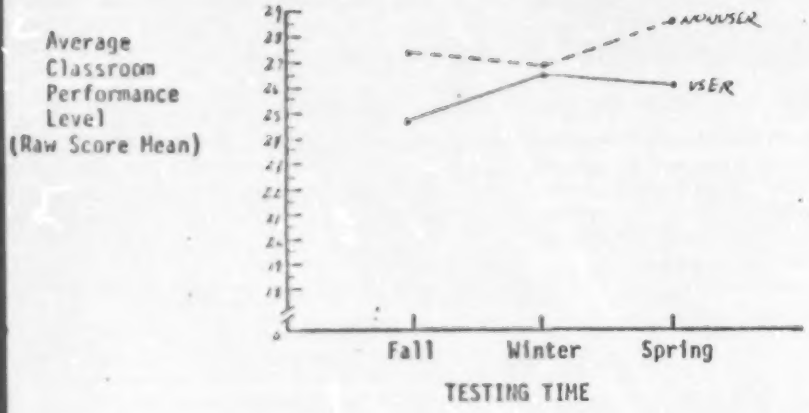
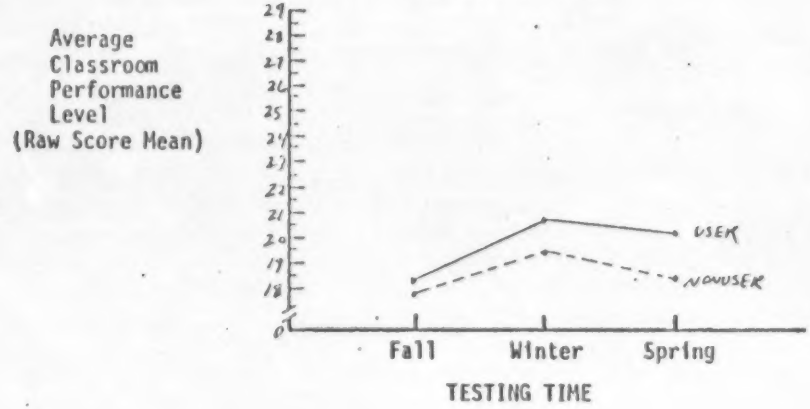
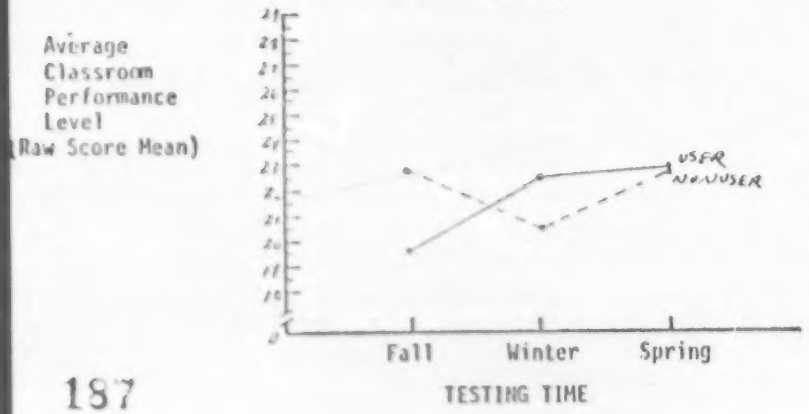


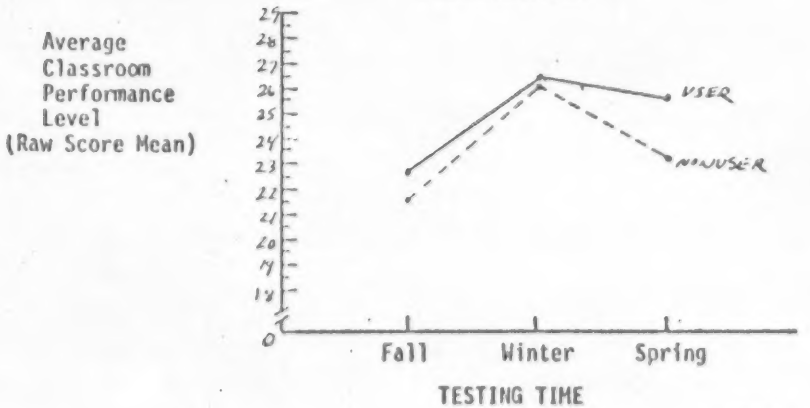
MISSISSIPPI



OREGON



PENNSYLVANIA



APPENDIX I

TABLES OF STUDENTS EXCEEDING CRITERION LEVELS ON CTBS BY STATE

TABLE 1

CTBS PERFORMANCE OF USER AND NONUSER CLASSROOMS RELATIVE TO FALL-SPRING CHANGE CRITERION LEVEL (.5Sx).

5th GRADE READING COMPREHENSION

IOWA

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 6 % of users = 33.3	n = 12 % of users = 66.7
NONUSER	n = 2 % of nonusers = 20.0	n = 8 % of nonusers = 80.0

MISSISSIPPI

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 5 % of users = 27.8	n = 13 % of users = 72.2
NONUSER	n = 3 % of nonusers = 16.7	n = 15 % of nonusers = 83.3

OREGON

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 5 % of users = 41.7	n = 7 % of users = 58.3
NONUSER	n = 4 % of nonusers = 57.1	n = 3 % of nonusers = 42.9

PENNSYLVANIA

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 2 % of users = 22.2	n = 7 % of users = 77.8
NONUSER	n = 3 % of nonusers = 33.3	n = 6 % of nonusers = 66.7

TABLE 2

CTBS PERFORMANCE OF USER AND NONUSER CLASSROOMS RELATIVE TO FALL-SPRING CHANGE CRITERION LEVEL (.5Sx).

5th GRADE LANGUAGE EXPRESSION

IOWA

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 5 % of users = 27.7	n = 13 % of users = 72.3
NONUSER	n = 3 % of nonusers = 23.1	n = 10 % of nonusers = 76.9

MISSISSIPPI

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 7 % of users = 38.9	n = 11 % of users = 61.1
NONUSER	n = 4 % of nonusers = 25.0	n = 12 % of nonusers = 75.0

OREGON

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 1 % of users = 9.1	n = 10 % of users = 90.9
NONUSER	n = 4 % of nonusers = 44.4	n = 5 % of nonusers = 55.6

PENNSYLVANIA

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 6 % of users = 54.5	n = 5 % of users = 45.5
NONUSER	n = 5 % of nonusers = 62.5	n = 3 % of nonusers = 37.5

TABLE 3

CTBS PERFORMANCE OF USER AND NONUSER CLASSROOMS RELATIVE TO FALL-SPRING CHANGE CRITERION LEVEL (.5Sx).

5th GRADE MATHEMATICS CONCEPTS

IOWA

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 9 % of users = 50.0	n = 9 % of users = 50.0
NONUSER	n = 5 % of nonusers = 50.0	n = 5 % of nonusers = 50.0

MISSISSIPPI

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 10 % of users = 55.6	n = 8 % of users = 44.4
NONUSER	n = 6 % of nonusers = 33.3	n = 12 % of nonusers = 66.7

OREGON

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 3 % of users = 25.0	n = 9 % of users = 75.0
NONUSER	n = 1 % of nonusers = 14.3	n = 6 % of nonusers = 85.7

PENNSYLVANIA

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 3 % of users = 33.3	n = 6 % of users = 66.7
NONUSER	n = 6 % of nonusers = 66.7	n = 3 % of nonusers = 33.3

TABLE 4

CTBS PERFORMANCE OF USER AND NONUSER CLASSROOMS RELATIVE TO FALL-SPRING CHANGE CRITERION LEVEL (.5Sx).

5th GRADE MATHEMATICS APPLICATIONS

IOWA

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 5 % of users = 27.8	n = 13 % of users = 72.2
NONUSER	n = 2 % of nonusers = 20.0	n = 8 % of nonusers = 80.0

MISSISSIPPI

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 5 % of users = 27.8	n = 13 % of users = 72.2
NONUSER	n = 3 % of nonusers = 16.7	n = 15 % of nonusers = 83.3

OREGON

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 3 % of users = 25.0	n = 9 % of users = 75.0
NONUSER	n = 3 % of nonusers = 42.9	n = 4 % of nonusers = 57.1

PENNSYLVANIA

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 3 % of users = 33.3	n = 6 % of users = 66.7
NONUSER	n = 3 % of nonusers = 33.3	n = 6 % of nonusers = 66.7

TABLE 5

CTBS PERFORMANCE OF USER AND NONUSER CLASSROOMS RELATIVE TO FALL-SPRING CHANGE CRITERION LEVEL (.5Sx).

5th GRADE REFERENCE SKILLS

IOWA

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 6 % of users = 33.3	n = 12 % of users = 66.7
NONUSER	n = 2 % of nonusers = 15.4	n = 11 % of nonusers = 84.6

MISSISSIPPI

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 13 % of users = 72.2	n = 5 % of users = 27.8
NONUSER	n = 11 % of nonusers = 68.8	n = 5 % of nonusers = 31.2

OREGON

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 7 % of users = 63.6	n = 4 % of users = 36.4
NONUSER	n = 3 % of nonusers = 37.5	n = 5 % of nonusers = 62.5

PENNSYLVANIA

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 6 % of users = 60.0	n = 4 % of users = 40.0
NONUSER	n = 2 % of nonusers = 28.6	n = 5 % of nonusers = 71.4

TABLE 6

CTBS PERFORMANCE OF USER AND NONUSER CLASSROOMS RELATIVE TO FALL-SPRING CHANGE CRITERION LEVEL (.5Sx).

5th GRADE SCIENCE

IOWA

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 5 % of users = 27.8	n = 13 % of users = 72.2
NONUSER	n = 3 % of nonusers = 23.1	n = 10 % of nonusers = 76.9

MISSISSIPPI

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 4 % of users = 22.2	n = 14 % of users = 77.8
NONUSER	n = 5 % of nonusers = 31.3	n = 11 % of nonusers = 68.7

OREGON

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 7 % of users = 63.6	n = 4 % of users = 36.4
NONUSER	n = 3 % of nonusers = 33.3	n = 6 % of nonusers = 66.7

PENNSYLVANIA

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 3 % of users = 27.3	n = 8 % of users = 72.7
NONUSER	n = 1 % of nonusers = 12.5	n = 7 % of nonusers = 87.5

TABLE 7

CTBS PERFORMANCE OF USER AND NONUSER CLASSROOMS RELATIVE TO FALL-SPRING CHANGE CRITERION LEVEL (.5Sx).

5th GRADE SOCIAL STUDIES

IOWA

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 6 % of users = 33.3	n = 12 % of users = 66.7
NONUSER	n = 4 % of nonusers = 44.4	n = 5 % of nonusers = 55.6

MISSISSIPPI

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 5 % of users = 27.8	n = 13 % of users = 72.2
NONUSER	n = 3 % of nonusers = 16.7	n = 15 % of nonusers = 83.3

OREGON

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 3 % of users = 25.0	n = 9 % of users = 75.0
NONUSER	n = 4 % of nonusers = 57.1	n = 3 % of nonusers = 42.9

PENNSYLVANIA

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 5 % of users = 55.6	n = 4 % of users = 44.4
NONUSER	n = 2 % of nonusers = 22.2	n = 7 % of nonusers = 77.8

TABLE 8

CTBS PERFORMANCE OF USER AND NONUSER CLASSROOMS RELATIVE TO FALL-SPRING CHANGE CRITERION LEVEL (.55x).

6th GRADE READING COMPREHENSION

IOWA

	Greater Than .55x Increase	Less Than .55x Increase
USER	n = 1 % of users = 7.1	n = 13 % of users = 92.9
NONUSER	n = 3 % of nonusers = 33.3	n = 6 % of nonusers = 66.7

MISSISSIPPI

	Greater Than .55x Increase	Less Than .55x Increase
USER	n = 2 % of users = 12.5	n = 14 % of users = 87.5
NONUSER	n = 2 % of nonusers = 11.8	n = 15 % of nonusers = 88.2

OREGON

	Greater Than .55x Increase	Less Than .55x Increase
USER	n = 1 % of users = 9.1	n = 10 % of users = 90.9
NONUSER	n = 1 % of nonusers = 14.3	n = 6 % of nonusers = 85.7

PENNSYLVANIA

	Greater Than .55x Increase	Less Than .55x Increase
USER	n = 3 % of users = 30.0	n = 7 % of users = 70.0
NONUSER	n = 4 % of nonusers = 44.4	n = 5 % of nonusers = 55.6

TABLE 9

CTBS PERFORMANCE OF USER AND NONUSER CLASSROOMS RELATIVE TO FALL-SPRING CHANGE CRITERION LEVEL (.5Sx).

6th GRADE LANGUAGE EXPRESSION

IOWA

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 1 % of users = 7.7	n = 12 % of users = 92.3
NONUSER	n = 1 % of nonusers = 14.3	n = 6 % of nonusers = 85.7

MISSISSIPPI

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 5 % of users = 27.8	n = 13 % of users = 72.2
NONUSER	n = 1 % of nonusers = 5.9	n = 16 % of nonusers = 94.1

OREGON

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 0 % of users = 0.0	n = 9 % of users = 100.0
NONUSER	n = 0 % of nonusers = 0.0	n = 6 % of nonusers = 100.0

PENNSYLVANIA

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 3 % of users = 30.0	n = 7 % of users = 70.0
NONUSER	n = 4 % of nonusers = 50.0	n = 4 % of nonusers = 50.0

TABLE 10

CTBS PERFORMANCE OF USER AND NONUSER CLASSROOMS RELATIVE TO FALL-SPRING CHANGE CRITERION LEVEL (.5Sx).

6th GRADE MATHEMATICS CONCEPTS

IOWA

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 0 % of users = 0.0	n = 14 % of users = 100.0
NONUSER	n = 1 % of nonusers = 36.4	n = 7 % of nonusers = 63.6

MISSISSIPPI

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 9 % of users = 56.3	n = 7 % of users = 43.7
NONUSER	n = 2 % of nonusers = 22.2	n = 7 % of nonusers = 77.8

OREGON

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 4 % of users = 36.4	n = 7 % of users = 63.6
NONUSER	n = 3 % of nonusers = 42.9	n = 4 % of nonusers = 57.1

PENNSYLVANIA

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 2 % of users = 22.2	n = 7 % of users = 77.8
NONUSER	n = 2 % of nonusers = 22.2	n = 7 % of nonusers = 77.8

TABLE 11

CTBS PERFORMANCE OF USER AND NONUSER CLASSROOMS RELATIVE TO FALL-SPRING CHANGE CRITERION LEVEL (.5Sx).

6th GRADE MATHEMATICS APPLICATIONS

IOWA

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 2 % of users = 14.3	n = 12 % of users = 85.7
NONUSER	n = 1 % of nonusers = 11.1	n = 8 % of nonusers = 88.9

MISSISSIPPI

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 3 % of users = 18.8	n = 13 % of users = 81.2
NONUSER	n = 1 % of nonusers = 5.9	n = 16 % of nonusers = 94.1

OREGON

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 2 % of users = 18.2	n = 9 % of users = 81.8
NONUSER	n = 3 % of nonusers = 42.9	n = 4 % of nonusers = 57.1

PENNSYLVANIA

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 1 % of users = 11.1	n = 8 % of users = 88.9
NONUSER	n = 1 % of nonusers = 11.1	n = 8 % of nonusers = 88.9

TABLE 12

CTBS PERFORMANCE OF USER AND NONUSER CLASSROOMS RELATIVE TO FALL-SPRING CHANGE CRITERION LEVEL (.5Sx).

6th GRADE REFERENCE SKILLS

IOWA

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 3 % of users = 23.1	n = 10 % of users = 76.9
NONUSER	n = 2 % of nonusers = 28.6	n = 5 % of nonusers = 71.4

MISSISSIPPI

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 5 % of users = 27.8	n = 13 % of users = 72.2
NONUSER	n = 4 % of nonusers = 23.5	n = 13 % of nonusers = 76.5

OREGON

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 2 % of users = 22.2	n = 7 % of users = 77.8
NONUSER	n = 1 % of nonusers = 16.7	n = 5 % of nonusers = 83.3

PENNSYLVANIA

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 2 % of users = 20.0	n = 8 % of users = 80.0
NONUSER	n = 2 % of nonusers = 25.0	n = 6 % of nonusers = 75.0

TABLE 13

CTBS PERFORMANCE OF USER AND NONUSER CLASSROOMS RELATIVE TO FALL-SPRING CHANGE CRITERION LEVEL (.5Sx).

6th GRADE SCIENCE

IOWA

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 4 % of users = 30.8	n = 9 % of users = 69.2
NONUSER	n = 1 % of nonusers = 14.3	n = 6 % of nonusers = 85.7

MISSISSIPPI

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 3 % of users = 16.7	n = 15 % of users = 83.3
NONUSER	n = 3 % of nonusers = 17.6	n = 14 % of nonusers = 82.4

OREGON

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 3 % of users = 33.3	n = 6 % of users = 66.7
NONUSER	n = 0 % of nonusers = 0.0	n = 6 % of nonusers = 100.0

PENNSYLVANIA

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 5 % of users = 50.0	n = 5 % of users = 50.0
NONUSER	n = 4 % of nonusers = 50.0	n = 4 % of nonusers = 50.0

TABLE 14

CTBS PERFORMANCE OF USER AND NONUSER CLASSROOMS RELATIVE TO FALL-SPRING CHANGE CRITERION LEVEL (.5Sx).

6th GRADE SOCIAL STUDIES

IOWA

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 1 % of users = 7.1	n = 13 % of users = 92.9
NONUSER	n = 2 % of nonusers = 22.2	n = 7 % of nonusers = 77.8

MISSISSIPPI

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 4 % of users = 25.0	n = 12 % of users = 75.0
NONUSER	n = 2 % of nonusers = 11.8	n = 15 % of nonusers = 88.2

OREGON

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 3 % of users = 30.0	n = 7 % of users = 70.0
NONUSER	n = 0 % of nonusers = 0.0	n = 6 % of nonusers = 100.0

PENNSYLVANIA

	Greater Than .5Sx Increase	Less Than .5Sx Increase
USER	n = 2 % of users = 20.0	n = 8 % of users = 80.0
NONUSER	n = 2 % of nonusers = 22.2	n = 8 % of nonusers = 77.8

APPENDIX J

CTBS ITEM FINDINGS

CTBS ITEM FINDINGS

Every test item on each of the seven CTBS subtests was inspected for significantly greater performance at the end of the year by students in classrooms using ThinkAbout than by students in classrooms not using ThinkAbout. Whenever such differences were found, winter and fall data on the same item were examined to determine whether a difference existed prior to the end of the year. If a spring difference existed in the direction that was sought ($p = .05$ level of significance) and no difference or a difference in the opposite direction existed in the fall, the item was included in the list that follows. This analysis was done separately for the two grades.

The purpose of this analysis was to seek any patterns of achievement that could be linked to ThinkAbout. If a pattern existed, it might aid in understanding the impact of the series. This was strictly a search for outcomes that may have resulted from ThinkAbout.

The results of this search were as follows:

1. Reading comprehension, grade 5:

   Item 30--user classrooms scored 82% correct on the average, nonuser classrooms 73% correct ($p = .03$). The item is as follows:

   Which of these words best describes Armstrong's space career?

   5 long

   6 reckless

   7 thoughtful

   8 adventurous

2. Language expression, grade 5:

   Item 11--user classrooms scored 98% correct on the average, nonuser classrooms 92% correct ($p = .05$). The item is as follows:

Early explorers sailed / across the Atlantic Ocean / in wooden ships / None

1 2 3 4

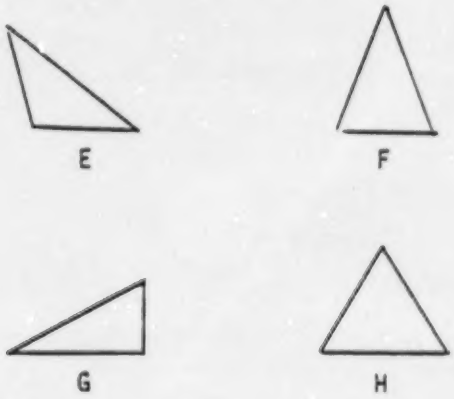
3. Mathematics concepts, grade 5:

No items.

4. Mathematics applications, grade 5:

Item 10--user classrooms scored 65% correct on the average, nonuser classrooms 55% correct (p = .05). The item is as follows:

Which of these triangles is equilateral?



5. Reference skills, grade 5:

No items.

6. Science, grade 5:

No items.

7. Social studies, grade 5:

Item 6--user classrooms scored 80% correct on the average, nonuser classrooms 70% correct (p = .02). The item is as follows:

In which state did the portion of land used for farming stay the same between 1910 and 1964?

5 Iowa

6 New York

7 Pennsylvania

8 Massachusetts

Item 7--user classrooms scored 70% correct on the average, nonuser classrooms 60% correct (p = .02). The item is as follows:

The white areas on the circle graphs stand for the portion, or part, of each state's land that is used for

1 farming

2 state parks

3 cities and towns

4 purposes other than farming

For the sixth grade, the results of this search were as follows:

1. Reading comprehension, grade 6:

No items.

2. Language expression, grade 6:

Item 14--user classrooms scored 81% correct on the average, nonuser classrooms 72% correct (p = .02). The item is as follows:

The Declaration of Independence / is considered an important document /
5 6
by Americans. / None
7 8

Item 15--user classrooms scored 75% correct on the average, nonuser classrooms 65% correct (p = .01). The item is as follows:

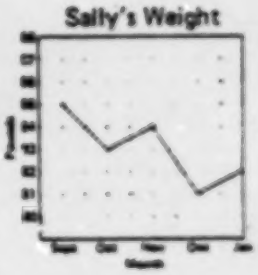
On our tour of the West / we even went to / a cowboy rodeo in Nevada. /
1 2 3
None
4

3. Mathematics concepts, grade 6:

Item 4--user classrooms scored 95% correct on the average, nonuser classrooms 88% correct (p = .02). The item is as follows:

According to the graph below, what was Sally's weight in December?

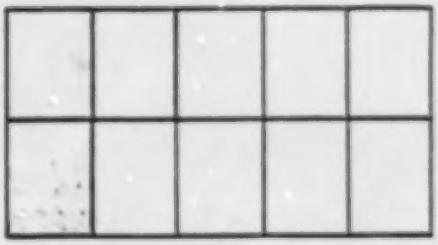
E 81 lb
F 82 lb
G 83 lb
H 84 lb



Item 16--user classrooms scored 95% correct on the average, nonuser classrooms 90% correct (p = .04). The item is as follows:

What fraction of this figure is shaded?

E $\frac{1}{5}$
F $\frac{3}{10}$
G $\frac{3}{5}$
H $\frac{7}{10}$



4. Mathematics applications, grade 6:

No items.

5. Reference skills, grade 6:

Item 3--user classrooms scored 75% correct on the average, nonuser classrooms 63% correct (p = .02). The item is as follows:

Which card is an author card?

A Card 1
B Card 2
C Card 3
D None of these

6. Science, grade 6:

Item 8--user classrooms scored 74% correct on the average, nonuser classrooms 62% correct (p = .01). The item is as follows:

Which one of the following is a "microthing"?

E pencil

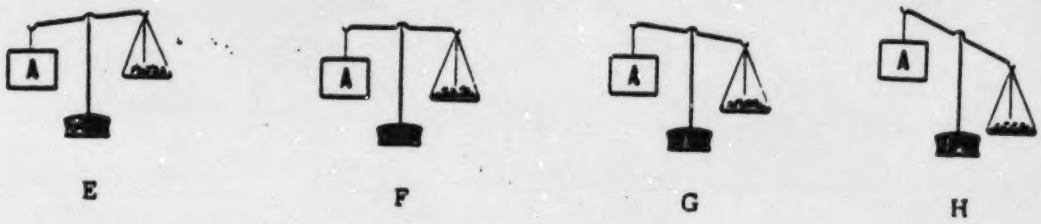
F raindrop

G door key

H paper clip

Item 16--user classrooms scored 70% on the average, nonuser classrooms 59% correct (p = .02). The item is as follows:

Tom put Box A on one side of the scale and only 9 paper clips on the other side. Which one of the following pictures shows how the scale would look?



E F G H

7. Social studies, grade 6:

Item 29--user classrooms scored 75% correct on the average, nonuser classrooms 66% correct (p = .05). The item is as follows:

Which of the following countries has a way of life most like the way of life in the United States?

1 India

2 Spain

3 Canada

4 Mexico

The number of CTBS test items which met the search criteria was small, and those that were identified could represent Type I errors. Most CTBS items showed no significant difference between user and non-user classrooms in performance in the spring. If ThinkAbout has an effect on basic skills test performance, the items listed above represent the most likely locations of the effect.

APPENDIX K

ATTITUDES TOWARD PROBLEM SOLVING ITEM DATA

TABLE 15

Average ATPS Responses for User and Nonuser
Grade 5 Classrooms During the Year

Item		Fall	Winter	Spring
1	User	2.41 (n=69)	2.36 (n=39)	2.38 (n=49)
	Nonuser	2.39 (n=58)	2.37 (n=29)	2.39 (n=59)
2.	User	2.66 (n=69)	2.85 (n=39)	2.84 (n=49)
	Nonuser	2.69 (n=58)	2.87 (n=29)	2.88 (n=59)
3.	User	3.02 (n=69)	3.24 (n=39)	3.35 (n=49)
	Nonuser	2.97 (n=58)	3.22 (n=29)	3.28 (n=59)
4.	User	2.45 (n=69)	2.46 (n=39)	2.45 (n=49)
	Nonuser	2.44 (n=58)	2.37 (n=29)	2.39 (n=59)
5.	User	2.50 (n=69)	2.57 (n=39)	2.59 (n=49)
	Nonuser	2.46 (n=58)	2.57 (n=29)	2.51 (n=59)
6.	User	2.51 (n=69)	2.51 (n=39)	2.53 (n=49)
	Nonuser	2.54 (n=58)	2.54 (n=29)	2.53 (n=59)
7.	User	2.94 (n=69)	3.17 (n=39)	3.23 (n=49)
	Nonuser	2.99 (n=58)	3.16 (n=29)	3.26 (n=59)
8.	User	2.64 (n=69)	2.72 (n=39)	2.87 (n=49)
	Nonuser	2.62 (n=58)	2.80 (n=29)	2.73 (n=59)
9.	User	2.41 (n=69)	2.45 (n=39)	2.49 (n=49)
	Nonuser	2.35 (n=58)	2.42 (n=29)	2.43 (n=59)
10.	User	3.15 (n=69)	3.39 (n=39)	3.41 (n=49)
	Nonuser	3.12 (n=58)	3.43 (n=29)	3.48 (n=59)
11.	User	3.39 (n=69)	3.76 (n=39)	3.69 (n=49)
	Nonuser	3.33 (n=58)	3.66 (n=29)	3.61 (n=59)
12.	User	2.01 (n=69)	2.17 (n=39)	2.08 (n=49)
	Nonuser	2.08 (n=58)	1.97 (n=29)	2.09 (n=59)
13.	User	2.67 (n=69)	2.80 (n=39)	2.88 (n=49)
	Nonuser	2.61 (n=58)	2.79 (n=29)	2.79 (n=59)
14.	User	4.13 (n=69)	4.36 (n=39)	4.35 (n=49)
	Nonuser	4.04 (n=58)	4.27 (n=29)	4.29 (n=59)
15.	User	3.43 (n=69)	3.51 (n=39)	3.63 (n=49)
	Nonuser	3.35 (n=58)	3.44 (n=29)	3.58 (n=59)

TABLE 15 (continued)

Item		Fall	Winter	Spring
16.	User	2.06 (n=69)	2.08 (n=39)	2.04 (n=59)
	Nonuser	2.09 (n=58)	2.05 (n=29)	2.03 (n=49)
17.	User	3.01 (n=69)	3.15 (n=39)	3.08 (n=59)
	Nonuser	2.94 (n=58)	3.15 (n=29)	3.09 (n=49)
18.	User	3.05 (n=69)	3.09 (n=39)	3.14 (n=59)
	Nonuser	3.07 (n=58)	3.13 (n=29)	3.16 (n=49)
19.	User	2.02 (n=69)	1.95 (n=39)	2.03 (n=59)
	Nonuser	2.03 (n=58)	1.95 (n=29)	1.97 (n=49)
20.	User	3.45 (n=69)	3.53 (n=39)	3.47 (n=59)
	Nonuser	3.32 (n=58)	3.49 (n=29)	3.48 (n=49)
21.	User	2.72 (n=69)	2.89 (n=39)	2.89 (n-59)
	Nonuser	2.70 (n=58)	2.85 (n=29)	2.82 (n=49)
22.	User	2.80 (n=69)	3.09 (n=39)	3.14 (n=59)
	Nonuser	2.67 (n=58)	3.20 (n=29)	3.20 (n=49)
23.	User	1.90 (n=69)	1.81 (n=39)	1.78 (n=59)
	Nonuser	1.99 (n=58)	1.80 (n=29)	1.94 (n=49)
24.	User	3.13 (n=69)	3.27 (n=39)	3.27 (n=59)
	Nonuser	3.09 (n=58)	3.40 (n=29)	3.16 (n=49)
25.	User	3.11 (n=69)	3.32 (n=39)	3.30 (n=59)
	Nonuser	3.05 (n=58)	3.30 (n=29)	3.37 (n=49)
26.	User	2.76 (n=69)	2.69 (n=39)	2.82 (n=59)
	Nonuser	2.71 (n=58)	2.76 (n=29)	2.62 (n=49)
27.	User	2.69 (n=69)	2.83 (n=39)	2.85 (n=59)
	Nonuser	2.74 (n=58)	2.79 (n=29)	2.87 (n=49)
28.	User	2.93 (n=69)	2.85 (n=39)	3.03 (n=59)
	Nonuser	2.90 (n=58)	2.78 (n=29)	2.85 (n=49)
29.	User	2.97 (n=69)	2.99 (n=39)	2.93 (n=59)
	Nonuser	2.79 (n=58)	2.96 (n=29)	2.90 (n=49)
30.	User	2.94 (n=62)	3.21 (n=39)	3.17 (n=59)
	Nonuser	2.98 (n=51)	3.17 (n=28)	3.16 (n=48)

TABLE 16

Average ATPS Responses for User and Nonuser
Grade 6 Classrooms During the Year

Item		Fall	Winter	Spring
1.	User	2.41 (n=60)	2.41 (n=42)	2.27 (n=52)
	Nonuser	2.44 (n=52)	2.45 (n=26)	2.41 (n=41)
2.	User	2.73 (n=60)	3.06 (n=42)	2.93 (n=52)
	Nonuser	2.75 (n=52)	2.85 (n=26)	3.00 (n=41)
3.	User	3.22 (n=60)	3.42 (n=42)	3.47 (n=52)
	Nonuser	3.07 (n=52)	3.20 (n=26)	3.20 (n=41)
4.	User	2.38 (n=60)	2.44 (n=42)	2.43 (n=52)
	Nonuser	2.48 (n=52)	2.43 (n-26)	2.42 (n=41)
5.	User	2.52 (n=60)	2.82 (n=42)	2.85 (n=52)
	Nonuser	2.68 (n=52)	2.45 (n=26)	2.67 (n=41)
6.	User	2.55 (n=60)	2.61 (n=42)	2.47 (n=52)
	Nonuser	2.57 (n=52)	2.57 (n=26)	2.47 (n=41)
7.	User	3.21 (n=60)	3.52 (n=42)	3.41 (n=52)
	Nonuser	3.11 (n=52)	3.31 (n=26)	3.38 (n=41)
8.	User	2.78 (n=60)	2.88 (n=42)	2.84 (n=52)
	Nonuser	2.68 (n=52)	2.82 (n=26)	2.61 (n=41)
9.	User	2.50 (n=60)	2.54 (n=42)	2.59 (n=52)
	Nonuser	2.50 (n=52)	2.59 (n=26)	2.66 (n=41)
10.	User	3.38 (n=60)	3.61 (n=42)	3.50 (n=52)
	Nonuser	3.27 (n=52)	3.45 (n=26)	3.50 (n=41)
11.	User	3.63 (n=60)	3.86 (n=42)	3.91 (n=52)
	Nonuser	3.56 (n=52)	3.60 (n=26)	3.71 (n=41)
12.	User	2.10 (n=60)	2.15 (n=42)	2.17 (n=52)
	Nonuser	2.11 (n=52)	2.03 (n=26)	2.09 (n=41)
13.	User	2.80 (n=60)	3.02 (n=42)	2.92 (n=52)
	Nonuser	2.77 (n=52)	2.73 (n=26)	2.89 (n=41)
14.	User	4.20 (n=60)	4.46 (n=42)	4.36 (n=52)
	Nonuser	4.22 (n=52)	4.40 (n=26)	4.19 (n=41)
15.	User	3.53 (n=60)	3.72 (n=42)	3.68 (n=52)
	Nonuser	3.50 (n=52)	3.59 (n=26)	3.47 (n=41)

TABLE 16 (continued)

Item		Fall	Winter	Spring
16.	User	2.06 (n=60)	2.06 (n=42)	1.98 (n=52)
	Nonuser	2.15 (n=52)	2.15 (n=26)	2.02 (n=41)
17.	User	3.22 (n=60)	3.22 (n=42)	3.19 (n=52)
	Nonuser	3.07 (n=52)	3.07 (n=26)	3.09 (n=41)
18.	User	3.22 (n=60)	3.22 (n=42)	3.25 (n=52)
	Nonuser	3.07 (n=52)	3.07 (n=26)	3.23 (n=41)
19.	User	1.95 (n=60)	2.02 (n=42)	1.89 (n=52)
	Nonuser	1.97 (n=52)	1.94 (n=26)	1.90 (n=41)
20.	User	3.53 (n=60)	3.69 (n=42)	3.61 (n=52)
	Nonuser	3.45 (n=52)	3.47 (n=26)	3.48 (n=41)
21.	User	2.82 (n=60)	3.12 (n=42)	2.95 (n=52)
	Nonuser	2.72 (n=52)	2.91 (n=26)	2.92 (n=41)
22.	User	3.14 (n=60)	3.44 (n=42)	3.52 (n=52)
	Nonuser	3.06 (n=52)	3.34 (n=26)	3.30 (n=41)
23.	User	1.86 (n=60)	1.77 (n=42)	1.88 (n=52)
	Nonuser	1.89 (n=52)	1.96 (n=26)	1.92 (n=41)
24.	User	3.30 (n=60)	3.39 (n=42)	3.31 (n=52)
	Nonuser	3.20 (n=52)	3.21 (n=26)	3.23 (n=41)
25.	User	3.33 (n=60)	3.54 (n=42)	3.50 (n=52)
	Nonuser	2.28 (n=52)	3.37 (n=26)	3.45 (n=41)
26.	User	2.74 (n=60)	2.69 (n=42)	2.85 (n=52)
	Nonuser	2.81 (n=52)	2.81 (n=26)	2.86 (n=41)
27.	User	2.84 (n=60)	2.98 (n=42)	2.88 (n=52)
	Nonuser	2.74 (n=52)	2.80 (n=26)	2.91 (n=41)
28.	User	3.03 (n=60)	3.04 (n=42)	2.95 (n=52)
	Nonuser	2.87 (n=52)	3.02 (n=26)	2.81 (n=41)
29.	User	3.09 (n=60)	3.17 (n=42)	3.07 (n=52)
	Nonuser	2.92 (n=52)	3.02 (n=26)	2.98 (n=41)
30.	User	3.04 (n=52)	3.41 (n=42)	3.32 (n=52)
	Nonuser	3.09 (n=48)	3.15 (n=26)	3.11 (n=41)

APPENDIX L

SECONDARY TESTING STUDY ANALYSES

SECONDARY TESTING STUDY ANALYSES

A very important question regarding the impact of ThinkAbout concerns what influence factors other than the television broadcast had on student test performance. The following factors were investigated for their influence on CTBS test performance in classrooms where ThinkAbout was being used:

1. Teaching setting--whether the classroom is self-contained, non-traditional, or departmentalized (by subject)

2. Location of the school--large city, over 250,000 people; suburb of large city; middle-sized city, 50,000-250,000 people; suburb of middle-sized city; small city or town, less than 50,000 people; or rural area, not near a large or middle-sized city

3. Teacher rating of achievement level of class--above average, average, or below average

4. Teacher estimate of socioeconomic status of class--lower, lower middle, middle, upper middle, upper, or considerably mixed

5. Race of class--90% or more white, all others

6. Whether teacher attended a ThinkAbout workshop or in-service--yes or no

7. Whether teacher had used instructional television in the past--yes or no

8. Average amount of time spent on discussion in class before viewing a ThinkAbout program

9. Average amount of time spent on discussion in class after viewing a ThinkAbout program

10. Average total amount of time spent in class on discussion (before and after) related to a ThinkAbout program

11. The number of ThinkAbout programs used in the classroom

12. The teacher's attitude toward the value of group discussions in class

13. The teacher's attitude toward individualizing instruction for each child

14. The teacher's attitude toward maintaining flexibility in the classroom

15. The teacher's perception of the impact of ThinkAbout in each of 32 skill areas listed in the teacher's guide

The results of this analysis are provided below.

1. Teacher setting. Analysis of variance on the spring test performance on all seven CTBS subtests for classrooms where ThinkAbout was used revealed no statistically significant differences in performance among the three teaching settings. Analyses of covariance, adjusting spring test performance differences for differences that existed in the fall, verified the finding that teaching setting appears to make no difference. These analyses were done by grade level and also by state.

2. Location of the school. Analyses of variance and analyses of covariance for each of the seven CTBS subtests showed that, like teaching setting, the size of the community in which a classroom was formed did not seem to influence performance levels. These analyses were conducted only for classrooms which used ThinkAbout.

3. Teacher's rating of achievement level of class. Teachers were perceptive informants when rating the achievement levels of their classes. In the spring testing, the ThinkAbout classes that had been rated above average performed consistently higher than the other classrooms on seven CTBS subtests. Likewise, those rated average performed better than those rated below average. These performance differences disappeared, however, when spring test scores were adjusted for differences in fall test scores. Only adjusted

differences in performance levels on the mathematics applications test remained statistically significant.

4. Teacher's estimate of socioeconomic status of class. Teacher estimates of class SES accounted for significant amounts of variance in ThinkAbout classroom CTBS performance on the language expression and science tests, even after adjusting for fall test level differences. There were state differences in the pattern of SES differences in performance on these two tests.

5. Race of class. Whether a classroom using ThinkAbout was predominantly white did not account for any performance level differences on any of the CTBS tests.

The remainder of these analyses deal with some aspect of ThinkAbout preparation or use. They are therefore much more informative than the first five analyses about the process of using the series.

6. Whether the teacher attended a ThinkAbout workshop or in-service. Of 122 useable responses to the question of whether a workshop or in-service had been attended, 33 teachers answered yes (including one in Pennsylvania and one in Oregon). There was no statistically significant difference in the performance of their classes compared to that of classes where the teachers had not attended. This was true for all seven CTBS tests.

7. Whether the teacher had used instructional television in the past. Of the 37 who responded that they had not used instructional television in the past, only two were from Iowa. The others were distributed across the remaining three states. There were no statistically significant difference in performance on any CTBS test between the ThinkAbout classrooms where television had been used

before and those where it had not.

8. Average amount of time spent on discussion in class before viewing a ThinkAbout program. No overall consistent trends (positive patterns of correlation between time spent on discussion before viewing a ThinkAbout program and CTBS test performance) were found in this study. (In the case of sixth grade classes, there were two negative correlations, language expression and science.) The mean time spent on discussion before viewing a ThinkAbout program was 5.0 minutes and 6.4 minutes for the fifth and sixth grades, respectively. No significant correlations were found between time spent on discussions before viewing a ThinkAbout program and difference in the mean scores for spring and fall CTBS tests.

9. Average amount of time spent on discussion in class after viewing a ThinkAbout program. The variable of discussion time after viewing a ThinkAbout program showed no significant relationships with the CTBS test scores. The mean time for discussion was 11.3 minutes for fifth graders and 11.6 minutes for sixth graders. In the case of fifth graders there was a positive correlation ($r = .27$, $p = .03$) in the time spent on discussion and the difference between the spring and fall scores on the reading comprehension test.

10. Average total amount of time spent in class on discussion (before and after) related to ThinkAbout programs. No significant positive relationships were found between the total amount of time spent on discussion and the CTBS spring scores or differences in spring and fall scores. In the case of sixth grade students, there were the same two negative correlations for language expression and science as in 8 (above). The mean amount of time in discussion

(before and after viewing) was 16.4 minutes for the fifth graders and 18.0 minutes for the sixth graders.

11. The number of ThinkAbout programs used in the classroom. The average number of programs used in the classroom was 30.7 for the fifth graders and 33.5 for the sixth graders. There was only one significant positive correlation for the fifth graders. Spring mathematics application test scores were positively related to the total number of programs used in the classroom ($r = .24$, $p = .04$). In the case of sixth grade classes, however, the number of ThinkAbout programs used in the experimental classrooms showed a significant positive correlation with each of the seven tests in the spring. The tests, the correlations, and the levels of significance are provided below:

Table 17

Correlations and Levels of Significance of Spring Tests

Test	r	p
Reading comprehension	.33	.007
Language expression	.46	.001
Mathematics concepts	.37	.004
Mathematics applications	.38	.003
Reference skills	.33	.007
Science	.37	.003
Social studies	.32	.010

Differences in spring and fall CTBS scores were not related to the number of programs used in the classroom.

Items 12-15 were correlated with one another but not with the CTBS or Covington test scores. Only items 1-11 were related

to those scores. The main purpose of the last four items was to assess the relationship between teacher attitudes and test performance.

12. Teacher's attitude toward the value of group discussion in class. There were no significant relationships between the teacher's attitude toward the value of group discussion in class and any other variable on the teacher questionnaire in the fifth grade. In the sixth grade, however, there were a few significant relationships (.05 level). There was a negative correlation between the scores of those who believed that group discussion in class is usually a waste of time and their attitude toward individualizing a child's education. Belief in the futility of group discussion was positively related to the attitude that too much flexibility and pupil planning in a classroom creates a feeling of insecurity and confusion. There were no significant relationships between belief in the futility of group discussion and the time spent in class discussion before or after viewing a ThinkAbout program.

13. Teacher's attitude toward individualizing instruction for each child. In addition to the significant correlation with 12 (above), this item was also negatively related to 14 (below), i.e., there was a negative relationship between the attitude toward individualizing instruction for each child and the belief that flexibility and pupil planning created feelings of insecurity and confusion. This was true for both the fifth and sixth grades.

14. Teacher's attitude toward maintaining flexibility in the class. In addition to the correlations with 12 and 13 (above), there were significant negative correlations in the sixth grade with the

amount of time spent in discussion after viewing the TV program and the total amount of discussion before and after, i.e., teachers who believed in flexibility in the classroom tended to spend more time in discussions with students.

15. The teacher's perception of the impact of ThinkAbout in each of 32 skill areas listed in the teacher's guide. There were no identifiable patterns in the correlations of responses to these items and the responses discussed above.

Attitudes toward Problem Solving Scale Scores with 11 Factors

The Attitudes toward Problem Solving instrument consists of 30 items. Six scale scores were constructed from the items, following the test author's suggestions. The scales are as follows:

1. Self-confidence (Items 4, 9, 14, 19, and 27)
2. Willingness (Items 1, 6, 12, 17, 20, and 24)
3. Persistence (Items 3, 5, 8, 21, 25, 29, and 30)
4. Risk taking (Items 2, 7, 10, 13, 23, and 26)
5. Efficiency (Items 15, 22, and 28)
6. Flexibility (Items 11, 16, and 18).

The first eleven factors enumerated above (1-11) were analyzed with the six Attitudes towards Problem Solving scales. The results of the analyses are provided below. Analyses of variance and covariance were used for 1-7, and correlations for 8-11.

1. Teaching setting. Analyses of variance on the spring test scores on attitudes indicated statistically significant differences between the control and experimental groups on scales 3 and 5, persistence and efficiency (mean values of 20.8 and 21.6, 9.6 and 10.0) respectively, but not by teaching setting. Analyses of covariance,

adjusting spring test performance differences for differences that existed in the fall, showed no significant differences in attitudes toward problem solving by teaching setting.

2. Location of the school. Significant differences in the attitudes of the children toward problem solving in the control and experimental classes were found on three of the six scales, but not by location of the school. The scales affected were 2, 3, and 5, namely, willingness, persistence, and efficiency (mean values of 16.8 and 17, 20.8 and 21.6, 9.6 and 10.0, respectively). The covariance analyses did not show any differences based on the location of the school.

3. Teacher's rating of achievement level of class. No significant treatment effects were found in the spring scores or in the adjusted spring performances based on fall scores by class achievement level.

4. Teacher's estimate of socioeconomic status of class. One scale score, efficiency (scale 5), indicated significant differences between experimental and control groups at the .05 level in the spring scores of attitudes toward problem solving (mean values of 9.6 and 9.9) but not by the socioeconomic status of the class. None of the differences were significant when adjusted for the fall differences.

5. Race of class. A significant difference was found on scale 4, risk taking (mean values of 17.3 and 17.1), for experimental and control classrooms in the spring, but not by race of class. For the same scale, significant differences existed between grade levels, and there was significant interaction effect among treatment, grade, and racial composition of class.

6. Whether teacher attended a ThinkAbout workshop or in-service. Data in this and the following sections are limited to the experimental group. No significant changes in outcomes were observed in the attitudes of the students by this variable. A large number of teachers had not attended the workshops or in-service training, so these findings have to be interpreted very cautiously.

7. Whether teachers had used instructional television in the past. No significant differences were found between previous users and nonusers of ITV. But most of the teachers had used instructional television in the past; hence these results have to be interpreted cautiously.

8. Average amount of time spent on discussion in class before viewing a ThinkAbout program. A significant correlation was found for the fifth graders between the scale score for risk taking ($r = -.34$, $p = .02$) and the time spent before viewing a ThinkAbout program, indicating a more cautious and less risky approach to problem solving as more time was spent in discussion. This was also true for the sixth graders ($r = -.32$, $p = .02$). In addition, there was a significant relationship between the time spent before viewing and the level of confidence of the sixth graders ($r = -.29$, $p = .03$), i.e., as more time was spent in discussions, there was a greater likelihood of confidence in problem solving.

Another measure, a difference in spring and fall scores, was used in computing correlations with the time spent on discussions before viewing TV. The differences in the spring and fall scores of the fifth graders were significant on three scales, willingness ($r = -.43$, $p = .005$), persistence ($r = -.38$, $p = .01$), and risk

taking ($r = -.30$, $p = .04$). This suggests that as more time is spent in discussion before viewing TV, the students are more willing to try, become less persistent, and want to take fewer risks. This is not a consistent trend, but the correlations range from -.30 to -.43. No significant correlations were found for the sixth graders.

9. Average amount of time spent on discussion in class after viewing a ThinkAbout program. No significant correlations were found between the spring scores of fifth and sixth graders and the time spent in discussions after viewing TV. However, the willingness scale score differences for spring and fall indicated a significant relationship ($r = -.27$, $p = .04$). This suggests that time spent in discussion after viewing TV is related to students' willingness to try solving problems.

10. Average total amount of time spent in class on discussion (before and after) related to a ThinkAbout program. The total amount of time spent in discussion was not significantly related to attitudinal scale scores in spring or differences in spring and fall scores.

11. The number of ThinkAbout programs used in the classroom. There was a significant correlation between the number of programs seen and the score on flexibility ($r = .25$, $p = .03$) for fifth graders. The more programs they viewed, the less likely that they believed in flexibility. In the case of the sixth graders, however, the more programs they saw, the less they were willing to try to solve problems on their own. This relationship was significant at the .01 level ($r = .31$). In the case of spring and fall differences, the sixth graders indicated that they were more willing to try and more likely to be persistent. These relationships are significant at

the .05 and .04 level, respectively (r = -.23 and -.25).

ThinkAbout Test Scale Scores with 11 Factors

The three sets of ThinkAbout tests were : 1) problem-solving exercises, 2) self-management, and 3) effective communication. Scales were constructed for each of the instruments, following the test author's suggestions, and these scales closely paralleled the clusters described in the teacher's guide, though they were not worded the same. Also, scales were sometimes named differently. They do not cover all the information gathered in the ThinkAbout tests.

The problem-solving tests consist of three instruments with two forms each: Marie's Vegetable Garden, Forms B and C; Brian's Doormats, Forms B and C; and The Mystery of the Whales, Forms B and C.

Scales were constructed separately for Forms B and C. These scales are tentative in nature and need to be further tested and analyzed. A total of four scales were constructed from the problem-solving exercises, one scale for Form B and three for Form C of each of the three instruments.

Scale 1, Form B. This scale was a composite score of all the answers to the questions about finding causes. In one of the forms the question was worded as follows: "Brian decided to figure out what caused some of the cookies to burn. You help Brian. Write down all the reasons you can to explain this." Similar questions were asked in the other two instruments: "to figure out what might be causing the beet leaves to turn brown and you help" and "to figure out why so many whales died. You help." This scale was intended to measure causal reasoning ability.

Scale 2, Form C. This scale was constructed from response scores to the question "What is the problem? Write below." Many answers were possible, and all the scores were added up. The other two instruments had similar questions. This was a scale intended to measure problem identification.

Scale 3, Form C. This scale was constructed from response scores to the question "What are some of the different things Niki might do to solve this problem?" The other two instruments had similar questions. Multiple answers were allowed in all three cases. The scale score was intended to reflect problem-solving ability.

Scale 4, Form C. This scale was constructed from response scores to the question "Marie decides to plant more beets. But first, what things might Marie do to make sure the new beets do not die?" The other two instruments had similar questions. This scale was intended to measure predictive reasoning ability.

Self-management tests consisted of two instruments with two forms each: Jan's Report, Forms A and B, and Jim's Spacecraft, Forms A and B. Six additional scales were constructed for self-management instruments, three scales from Form A and three from Form B. They were numbered consecutively to avoid confusion.

Scale 5, Form A. This scale score is a composite of response scores to the following question: "Jim decides to make a plan so the spacecraft will be finished before the Science Fair deadline. But first, what things might Jim want to know in order to set up a plan?" The other instrument had a similar question. This scale was intended to measure the collection of information.

Scale 6, Form A. This scale was constructed from the total

number of responses to the following question: "Now that Jan has some questions in mind, where might she go and who might she talk to in order to find some answers?" The other instrument had a similar question. This scale measured resource identification abilities.

Scale 7, Form A. This scale was a continuation of the prior question. The question was worded as follows: "How might Jim find out more about actual spacecraft?" This scale was intended to measure supplemental information collection. The other instrument had a similar question.

Scale 8, Form B. This scale reflected one type of planning and was derived from the response scores to the following question: "A good planner thinks ahead to the different things that must be done to build this spacecraft. But many other things must be done before! What are some of them? Write below what might be Jim's first step. You may then add as many steps as you wish." A similar question was posed in Jan's Report. The questions were expected to measure both strategic and tactical planning ability. The scale was limited to strategic planning only. In the test author's words: "Strategic responses reflect overall planfulness, a systematic approach and organization of the task into manageable parts."

Scale 9, Form B. This scale was also derived from the question cited in the paragraph above. This scale measured tactical planning ability. In the test author's words, "tactical responses reflect concern with details (elaboration) of project construction. Scales 8 and 9 emphasize sequencing and scheduling ability."

Scale 10, Form B. This scale is a composite of response scores to the question "After Jan worked many hours on the report, she

suddenly finds that the deadline is sooner than she was told. She might not finish in time! What are the different kinds of things she could do now?" A similar question was asked in the other instruments. This scale was intended to measure the ability to be flexible or to make changes in planning based on new information.

Effective communication tests consisted of two instruments with two forms each: Deadly Drink, Forms A and B, and Deadly Refrigerator, Forms A and B. Four scales were constructed from these data. All of them pertained to the communication process. They were again numbered serially.

Scale 11, Form A. This scale was based on the response scores to the question "Alice's class decides to send a note home to parents to warn them of the danger of old refrigerators and what to do about it. You help. Write a short note in the box below that the class might send." A similar question was asked in the other instrument. This scale was intended to measure making a point in the communication process.

Scale 12, Form B. This scale emphasized the identification of a target population for effective communication. The question on which this scale was based was as follows: "Laurie's class decides to warn the neighborhood about the danger of poisons in the home and how to prevent accidents. Laurie and Alfredo are chosen to plan this project. You help. List the groups they might warn. . . ." A similar question was asked in the other instrument.

Scale 13, Form B. This scale was based on a continuation of the question quoted above. The additional part of the question was: "Tell how they might warn them." The other instrument had a similar question. This scale was intended to meausre the means or media of communication.

Scale 14, Form B. The last scale was about planning a presentation. The question on which this scale was based was: "Carlos plans to speak to several different groups to warn them of the danger. He will talk to the parents' club. He will also visit the kindergarten classes and talk to very young children. What things should Carlos do in order to prepare and give the best speeches possible? Make a list of your suggestions below." The other instrument contained a similar question. A composite list of all the scales is provided in Table 18.

The results of the analyses are provided in the subsections 1-11 below. Subsections 1-7 include findings for both control and experimental classes; 8-11 include findings for experimental classes only As usual, classrooms are the units of analysis. The data were analyzed separately for a combination of each instrument and a specific form. Subsections 1-7 contain findings from analyses of variance and covariance, and 8-11 contain findings from Pearson product-moment correlations.

Analyses of variance on the spring test performance and analyses of covariance, adjusting spring test performances for differences that existed in the fall test scores, were conducted for all Think-About tests--problem solving, self-management, and effective communication. The analyses were run separately for a combination of each instrument and form. For example, in effective communication tests four separate runs were made: (1) Deadly Drink, Form A; (2) Deadly Refrigerator, Form A; (3) Deadly Drink, Form B; and (4) Deadly Refrigerator, Form B. Similarly, four sets of analyses were conducted for self-management tests, and six sets for problem-solving exercises.

Table 18

Lists of Scales by Tests

Scales		Tests		
1)	Reasoning Ability	3	Problem-Solving Exercises	Form B
2)	Problem Identification	3	Problem-Solving Exercises	Form C
3)	Problem-Solving Ability	3	Problem-Solving Exercises	Form C
4)	Predictive Reasoning	3	Problem-Solving Exercises	Form C
5)	Collection of Information	2	Self-Management Tests	Form A
6)	Resource Identification	2	Self-Management Tests	Form A
7)	Supplemental Information Collection	2	Self-Management Tests	Form A
8)	Strategic Planning	2	Self-Management Tests	Form B
9)	Tactical Planning	2	Self-Management Tests	Form B
10)	Flexibility or Ability to Make Changes in Planning	2	Self-Management Tests	Form B
11)	Making a Point	2	Effective Communication Tests	Form A
12)	Identification of Target Population	2	Effective Communication Tests	Form A
13)	Means or Media of Communication	2	Effective Communication Tests	Form B
14)	Planning a Presentation	2	Effective Communication Tests	Form B

I. Problem-Solving Exercises

1) Marie's Vegetable Garden (B,C)
2) Brian's Doormats (B,C)
3) Mystery of the Whales (B,C)

II. Self-Management Tests

1) Jan's Report (A,B)
2) Jim's Spacecraft (A,B)

III. Effective Communication

1) Deadly Drink (A,B)
2) Deadly Refrigerator (A,B)

Treatment, grade, and background data were the three independent variables in the analysis of variance, and scale scores in the Covington tests was the dependent variable. In the analysis of covariance the same variables were used, and the fall or winter scale scores constituted the covariate. (In the cases of self-management and effective communication no tests were administered in fall; hence, winter scores were used as the covariate.)

Subsections 8-11 contain two types of data. The first type consists of findings about correlations between the spring test scale scores, the time spent in class discussing ThinkAbout programs, and the number of programs used in class. The second type consists of findings about correlations between the difference in spring and fall or spring and winter test scores, the time spent in class discussing ThinkAbout programs, and the number of programs used in class.

1. Teaching setting. Problem-solving exercises: No differences based on teaching setting or grade were observed. There was evidence of a significant difference between control and experimental classrooms on scale 3 of Brian's Doormats, Form C (the mean values were 2.8 and 3.1, respectively). There was also a significant difference found between control and experimental classrooms on scale 5 of Jan's Report, Form A. This difference, however, was not sustained in the analysis of covariance test. No other differences were observed.

Effective communication tests: A significant difference between control and experimental classrooms was observed in means or media of communication (scale 13) scores in Deadly Drink, Form B (the mean

values were .79 and 1.46, respectively). A difference in Deadly Refrigerator, Form B revealed differences between the scores of control and experimental classrooms in planning a presentation (scale 14). The respective mean scores were 1.30 and 1.71. Scale scores of control and experimental classrooms in making a point (scale 11) were significantly different for both Deadly Drink and Deadly Refrigerator in Form A (the mean values were 1.76 and 2.02, 1.62 and 1.89, respectively). In the case of means or media of communication (scale 13) and making a point (scale 11), the differences remained even after adjustments were made for the winter scores.

2. Location of school. Problem-solving exercises: Reasoning ability (scale 1) was the only variable on which the experimental and control classrooms showed a significant difference, and this was found on Brian's Doormats, Form B. (The mean values for the control and experimental groups were 2.74 and 3.05, respectively.) No differences were found by location of school or by grade.

Self-management: Jan's Report, Form B revealed a significant difference in tactical planning (scale 9) between the control and experimental classrooms. The mean scores were 1.80 and 2.04, respectively. No differences were found by location of school or by grade.

Effective communication: Means or media of communication (scale 13) on Deadly Drink, Form B (mean scores of .78 or 1.47) showed a significant difference between the control and experimental groups. No differences were found by location of school or by grade. Similarly, making a point (scale 11) exhibited significant differences on Forms A of both Deadly Drink and Deadly Refrigerator.

(Mean values were 1.75 versus 2.0 and 1.56 versus 1.92.) No differences were found by location of school or by grade. All three scale score differences remained statistically significant even after adjustment for differences in the winter tests.

3. Teacher rating of achievement level of class. Problem-solving exercises: The perception by teachers of class achievement level did not account for any differences. Treatment and grade did not account for significant differences either.

Self-management: No differences were found statistically significant.

Effective communication: Means or media of communication scores (scale 13) on Deadly Drink, Form B and making a point (scale 11) on Deadly Refrigerator and Deadly Drink, Form A exhibited significant differences between the experimental and control groups. (The mean scores were .80 versus 1.48 and 1.59 versus 1.91, respectively.) No differences were found between achievement levels or between grades. These differences persisted even after adjustment for differences in winter scores.

4. Teacher estimate of socioeconomic status of class. Problem-solving exercises: No significant differences were found in scale scores for problem-solving exercises.

Self-management: The spring scores for self-management showed a significant difference in Jim's Spacecraft, Form A on scale 7 (supplemental information collection). The mean scores were 1.24 for the control group and 1.38 for the experimental group. The analysis of covariance also revealed the same significant difference for the same instrument form and scale.

Effective communication: No differences were found to be related to treatment, socioeconomic level of the class, or grade.

5. Race of class. Problem-solving exercises: No significant differences were found.

Self-management: No significant differences were found.

Effective communication: No significant differences were found.

6. Whether teacher attended a ThinkAbout workshop or in-service. These analyses were omitted in this set because of the large number of teachers who did not attend the workshop and missing responses to the questionnaire.

7. Whether teachers had used instructional television in the past. These analyses were also omitted because of the very large number of teachers who had used instructional television in the past and the very small number who had not used it.

Thus, on the scale scores for the ThinkAbout tests, significant differences between the experimental and control classrooms showed up sporadically. The following is a summary of those that appeared:

Scale 1	Brian's Doormats	Scale 8	None
2	None	9	Jan's Report
3	Brian's Doormats	10	None
4	None	11	Deadly Drink
5	Jan's Report		Deadly Refrigerator
6	None	12	None
7	Jim's Spacecraft	13	Deadly Drink
		14	Deadly Refrigerator

Subsections 8-11 consist of data for the experimental group only, and correlations are used in the analysis instead of analyses of variance and covariance.

8. Average amount of time spent on discussions in class before viewing a ThinkAbout program. Problem-solving exercises: No signifi-

cant positive correlations were found between the amount of time spent in discussion before viewing a ThinkAbout program and the spring scores on the problem-solving exercises. (One significant negative correlation was observed on scale 4, predictive reasoning: grade 6 Brian's Doormats, Form C.) There was a significant positive relationship between the amount of time spent in discussion and the difference between spring and fall scores on grade 6 Mystery of the Whales, Form C, scale 4 (predictive reasoning).

Self-management: There was only one positive significant correlation between scale 8 scores (strategic planning) and discussion time before viewing on grade 5 Jim's Spacecraft, Form B. Three negative correlations were also observed in this group of tests. The differences in spring and winter scores were positively correlated at a level of significance at or below .05 in two cases, grade 5 Jim's Spacecraft, Form B, scale 8 (strategic planning) and grade 5 Jan's Report, Form A, scale 7 (supplemental information). There were also three negative correlations which were statistically significant.

Effective communication: No significant positive correlations were obtained for effective communication. There were, however, three significant negative correlations. No significant positive correlations were found in the case of differences between the spring and winter scores. There were two significant negative correlations.

9. Average amount of time spent in discussion after viewing a ThinkAbout program. Problem-solving exercises: There were two positive correlations which were statistically significant in the problem-solving exercises. In the fifth grade classrooms, time spent in discussion after viewing was significantly correlated with scale 1

(reasoning ability) in Maria's Vegetable Garden, Form B ($r = .32$, $p = .045$). In sixth grade classrooms it was scale 2 (problem identification) in Mystery of the Whales, Form C ($r = .37$, $p = .015$).

The difference in the spring and fall scores for grade 6 Maria's Vegetable Garden, Form B, scale 1 (reasoning ability) was positively related with the discussion ($r = .35$, $p = .025$). So was grade 5 Maria's Vegetable Garden, Form C, scale 3 (problem-solving ability). The coefficient of correlation was .32, and the level of significance was .045. For the same group and instrument the difference in scores on scale 2 (problem identification) was negatively related. This was also true for the sixth grade classes.

Self-management: One scale score in the self-management tests was positively correlated with time spent in discussion for the sixth grade classes. It was Jan's Report, Form B, scale 10 (flexibility or ability to make changes in planning). The r was .30, and the level of significance was .04. The difference in spring and winter scores was negatively related to discussion time for sixth graders in Brian's Doormats, Form B for scale 8 (strategic planning).

Effective communication: No significant positive relationships were formed between discussion time and effective communication spring test scores or in the differences between spring and winter scores. There was one case of a negative correlation.

10. Average total amount of time spent on discussion (before and after) related to a ThinkAbout program. Problem-solving exercises: Three positive correlations were observed which were statistically significant. Grade 5 Maria's Vegetable Garden, Form C, scale 3 (problem-solving ability) had a correlation coefficient of .27, with a

level of significance of .048, with the total amount of time spent on discussion. In addition, for grade 5 Mystery of the Whales, Form C, scale 3 (problem-solving ability) and scale 4 (predictive ability) were positively related at a significant level with total discussion time.

Differences in spring and winter scores were positively related to total discussion time in the case of grade 5 Maria's Vegetable Garden, Form B, scale 1 (reasoning ability, $r = .31$, $p = .03$). Significant positive relationships were also found for grade 6 Mystery of the Whales, Form C, scale 4 (predictive reasoning, $r = .38$, $p = .01$). Two differences of test scores were negative: both dealt with scale 2 (problem identification).

Self-management: Self-management scores for grade 6 Jan's Report, Form B, scale 10 (flexibility or ability to make changes in planning) showed a statistically significant positive relationship with total discussion time ($r = .32$, $p = .025$). Scales 9 and 10 (tactical planning and flexibility or ability to make changes in planning) for grade 6 Jim's Spacecraft, Form B also showed positive relationships with discussion time. In the case of fifth graders, scales 5 (collection of information) and 7 (supplemental information collection) in Jim's Spacecraft, Form A showed a positive relationship with discussion time ($r = .45$, $p = .003$).

Differences in spring and winter scores and discussion time also showed significant positive results in the case of grade 5 Jim's Spacecraft, Form A, scales 5 (collection of information) and 7 (supplemental information collection). The coefficient of correlation and the levels of significance were $r = .32$, $p = .025$

and r = .36, p = .012, respectively. There was one significant negative correlation.

Effective communication: One of the effective communication tests, scale 14 (planning a presentation), was found to be positively related to discussion time for grade 6 Deadly Refrigerator, Form B (r = .35, p = .014). Difference in the scores for grade 5 Deadly Refrigerator, Form B, scale 13 (means or media of communication) was positively related to the total amount of discussion time (r = .27, p = .046).

11. The number of ThinkAbout programs used in the classroom. Problem-solving exercises: Positive correlations with levels of significance of .05 or less were found only in Mystery of the Whales, Form C and the total number of programs seen by the experimental classes. For the fifth grade classes, they were scales 3 and 4 (problem-solving ability and predictive reasoning ability, r = .28, p = .049 and r = .37, p = .013). For the sixth grade classes it was scale 4, predictive reasoning ability (r = .38, p = .010). Two other significant correlations were negative.

Only one case was found to be positively related to the difference in scores and the number of ThinkAbout programs used in the classroom. This was for fifth grade classes, Mystery of the Whales, Form C. Five other significant correlations were negative.

Self-management: Scale 8 (strategic planning) for grade 5 Jan's Report, Form B showed a positive correlation with number of programs used in the classroom (r = .39, p = .008), and scale 7 (supplemental information collection) for Jim's Spacecraft, Form A was also positively related (r = .56, p = .001). Differences in

scores between spring and winter showed three significant positive correlations. These were scale 8 for grade 6 Jan's Report, Form B, and scales 6 and 7 (resource identification and supplemental information collection) for grade 6 Jim's Spacecraft, Form A ($r = .37$, $p = .009$ and $r = .55$, $p = .001$). There were also two negative correlations that were significant.

Effective communication: Scale 14 (planning a presentation) was positively related to the number of programs viewed in the classroom for grade 6 Deadly Drink, Form B. The number of programs seen was positively related to differences in scores for fifth grade classrooms on Deadly Drink, Form B, scales 12 and 14 (identification of target population and planning a presentation, respectively). There was one case of a significant negative corelation.

No clear-cut patterns were revealed in these analyses. Given the large number of analyses that were run, many of the significant differences and correlations are undoubtedly due to chance (Type I error). The most promising lead appears to be the link between the number of programs shown in class, and CTBS and ThinkAbout test performance. The scale scores on the effective communication ThinkAbout tests seemed the most promising outcome measures of the ThinkAbout exercises.

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